INSTALLATION INSTRUCTIONS

61301603904 Rev. A

Castle®

7700
FLOOR LOADING
CART WASHER

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Castle®

7700 FLOOR LOADING CART WASHER

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GETINGE Castle

INSTALLATION INSTRUCTIONS 61301603904

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DESCRIPTION OF SYMBOLS AND NOTES IN MANUAL

The following symbols with related notes appear in this manual.

"Warning" notes alert the user to the possibility of personal injury.

"Caution" notes alert the user to the possibility of damage to the equipment.

"Notes" alert the user to pertinent facts and conditions.

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Section 1 Installation Requirements

General Description

The Castle 7700 Floor Loading Cart Washer is a fully automatic, floor loading, hydro-spray cart washer with dual side-by-side wash compartments that is used to clean case carts, stands, utensils, containers, tote boxes, and similar bulk items.

Processing cycles are set up using a programmable controller equipped with a touch screen interface (touch control panel). Four cycle definitions are possible. The operator needs only to select and start a cycle.

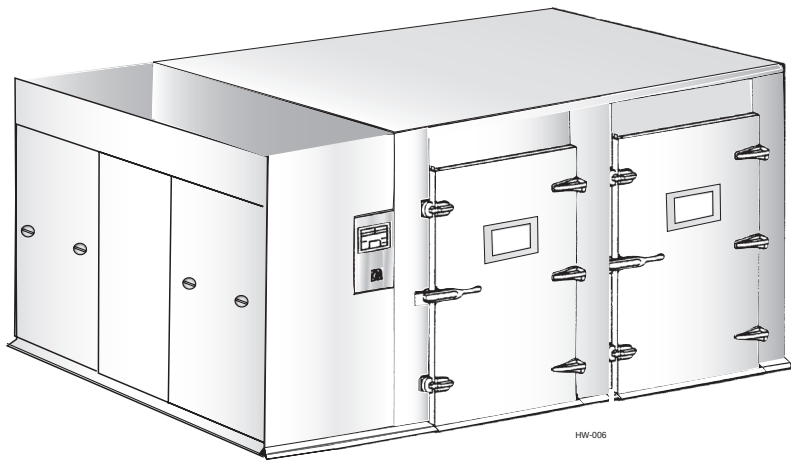
A standard cycle consists of the following sequential phases: wash, rinse 1, rinse 2, drying, and exhaust. The length of a cycle's phase can be adjusted at the touch control panel.

The washer can be installed in a pit or at floor level. When installed in a pit, the floor of the washer's chamber is level with the room floor, which allows the direct loading and unloading of carts. When the washer is installed at floor level, the floor is higher than the room floor. Ramps are then provided as standard equipment to facilitate loading and unloading.

The washer is designed for pass-through operation. Items to be cleaned are placed in the washer's compartment through one of the load end doors. After cleaning, the items are removed from the opposite end of the washer through the unload end doors.

The washer is generally installed in a facility's decontamination room with the unload end doors opening out into a clean-preparation area. The unit is 110" (2794 mm) wide and 108" (2743 mm) high. The washer is currently available in two compartment lengths: 98" (2489 mm) and 106" (2692 mm).

Figure 1–1. 7700 Floor Loading Cart Washer



Model Identification

The rating plate for a 7700 washer is affixed to the inside of the control box door.

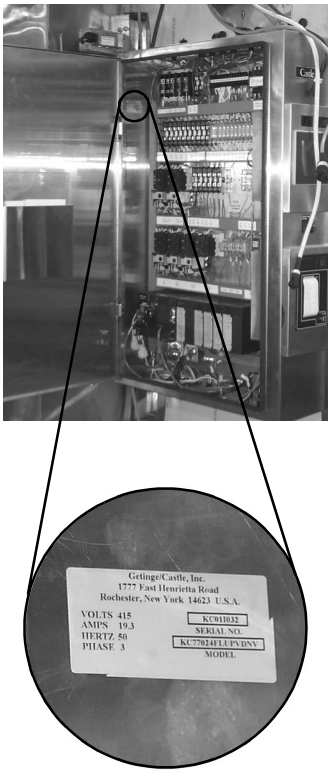
Record the model type and serial number (S/N) from the rating plate.

TYPE: _____

SERIAL NO: _____

Include the model type and serial number when communicating with Getinge/Castle.

Figure 1–2. Rating Plate Location



Utilities and Specifications

Electrical	208 V, 60 Hz, 3 phase, 50 A, 5-wire with neutral and ground 240 V, 60 Hz, 3 phase, 50 A, 4-wire with ground 380 V, 50 Hz, 3 phase, 50 A, 4-wire with ground 415 V, 50 Hz, 3 phase, 30 A, 4-wire with ground 480 V, 60 Hz, 3 phase, 25 A, 4-wire with ground 600 V, 60 Hz, 3 phase, 25 A, 4-wire with ground
Hot Water	1" IPS (25.4 mm) 40–60 PSI (276–414 kPa) 780 gal/hr (2953 l/hr) demand rate 180 gal/cycle (681 l/cycle) consumption 120° F min. (49° C)
Cold Water	3/4" IPS (19 mm) 40–60 PSI (276–414 kPa) 600 gal/hr (2271 l/hr) demand rate 100 gal/cycle (379 l/cycle) consumption, vented unit 220 gal/cycle (833 l/cycle) consumption, non-vented unit
Steam	1-1/2" IPS 40–50 PSI (276–345 kPa) 1200 lb/hr demand rate 88 lb/cycle consumption
Condensate	3/4" IPS (19 mm)
Drain	3" IPS (76.1 mm) minimum 280 gal/cycle (1060 l/cycle), vented unit 400 gal/cycle (1514 l/cycle), non-vented unit
Exhaust	12" square flanged (304.8 mm) 800 ft^3/hr (22.7 m^3/hr) 1/4" static pressure
Weight	1800–2200 lb (811–991 kg) approximate
Overall Size	108" high x 110" wide x 106" long (2743 mm x 1321 mm x 1829 mm) 108" high x 110" wide x 98" long (2743 mm x 1321 mm x 2489 mm)

Installation Advisory

A 7700 washer is assembled at the factory, tested, then disassembled for shipment. Extensive on-site reassembly is required. The installation instructions in this manual are intended as the primary reference for accomplishing this reassembly. Every effort has been made to make this information as accurate as possible. No two washers are exactly alike, however.

Each washer is uniquely configured to meet the demands of its operational site. These demands most often necessitate variances in the location of a washer's exterior components. These variances, in turn, impact the configuration of related plumbing and electrical wiring assemblies.

For this reason, some instructions or illustrations carried here may not reflect the actual location or configuration of selected component assemblies for a specific site. Where applicable, installers should refer to specifications contained in the product information documents, such as Rough-In and Assembly drawings, that have been forwarded to local Getinge/Castle product support personnel.

Washer Options

There are a number of options that may be included with your washer. These options affect the procedures that apply to your specific installation.

Floor Mount vs. Pit Mount

A floor mounted washer will require the installation of ramps to provide access to the washer. The two options may have different plumbing specifications.

Left Side vs. Right Side Controls

The location of controls on your washer will also determine the location of the service area, as well as the barriers flanges and service enclosure that may be provided with your washer.

Barrier Flanges and Service Enclosure

Your installation may have barrier walls at the load or unload end of the washer, or both, as well as have a service enclosure. These structures will be designed specifically for your site.

Electrical Service

The electrical service at your facility determines the specific high voltage devices (motors, pumps, etc.), transformer, and control box provided with your washer.

Printer

If your washer has the printer option, the printer will already be mounted on the control box.

Seismic Anchoring

Washers with the seismic anchoring option have base/sump assemblies that are mounted differently.

Shipping Configuration

A disassembled 7700 washer is shipped on 4 to 8 pallets of various lengths. The maximum size of any one pallet may be as large as 10' x 5' (approximate). For stability during transit, selected pallets are often pegged (with nails) to the floor of the truck.

Moving the disassembled washer from the truck to the installation site requires the use of any available combination of the following:

- fork lift
- pallet jack
- dollies
- Johnson bars

A sufficient supply of commonly used fasteners (#10-32 and 1/4-20, for example) is bagged for shipment. Speciality hardware and fasteners (door latches and hinges, for example) are labeled and bagged separately for shipment.

Many disassembled items, such as plumbing and panel sections, are marked with handwritten numbers with black grease pen to identify their location, orientation, or connection points. Take care not to inadvertently smudge or erase these identifying marks.

Tools and Materials Required

The following tables list the specific tools and materials required at the installation site. Items marked with an asterisk * are supplied by Getinge/ Castle.

Table 1–1. Tools Required

Tool	Quantity
Common hand tools	Assorted
Bar clamp	2
C-clamp	2
Johnson bar	1
Pry/pinch bar	2
Caulking gun	1
1/4-20 tap, short	1
1/4-20 tap, long	1
10-32 tap, short	1
10-32 tap, long	1
#7 drill bit	2
#21 drill bit	2
Torpedo level	1
4’ level	1
Scratch awl	2

Table 1–2. Materials Required

Material	Quantity
* Silicone adhesive	8 tubes
* Silicone primer	1 pt
* Thinner	1 pt
* Polish	1 container
* Stainless steel nuts, bolts, washers, lock washers	Assorted
* Wire nuts, tie wraps	Assorted
* 3" x 6" stainless steel shims: • 12 ga • 14 ga • 16 ga • 18 ga	 12 12 12 12

Material	Quantity
1" x 4" x 6" wood block	2
2" x 4" x 52" wood block	4

The following items are recommended for use if a floor mounted washer is to be assembled out-of-position, then moved to its intended operational site:

* 4’ x 8’ x 1/8" Masonite, smooth	2 to 3
Pipe, rigid 3/4" x 60" L	4

The Masonite protects the floor during assembly. The pipe is used to roll the washer into position after assembly.

Section 2 Installation

Assemble the Washer Structure

This section contains procedures for assembling the basic structure of the washer compartment. Refer to the following sections.

- “Install the Base/Sump Assembly” on page 2-1
- “Assemble the Washer Panels” on page 2-5
- “Channel Fillers and Threshold Assemblies” on page 2-11
- “Door Assembly” on page 2-12
- “Trim Panels (Non-Service Side)” on page 2-14

Install the Base/Sump Assembly

General Instruction

The base/sump assembly is shipped in two halves that you must assemble on the site. If the load or unload ends of the base are not marked, check the configuration of the base’s sump against the rough-in drawing to determine the correct orientation.

Some installation sites may have an existing wall in close proximity to the non-service side of the washer that could interfere with the assembly of the washer's side panels. If this situation exists, you will have to seat the base temporarily out-of-position until the side, top, and non-service side trim panels are assembled. You can then maneuver the unit to its operating position, where you can level and anchor it, if required.

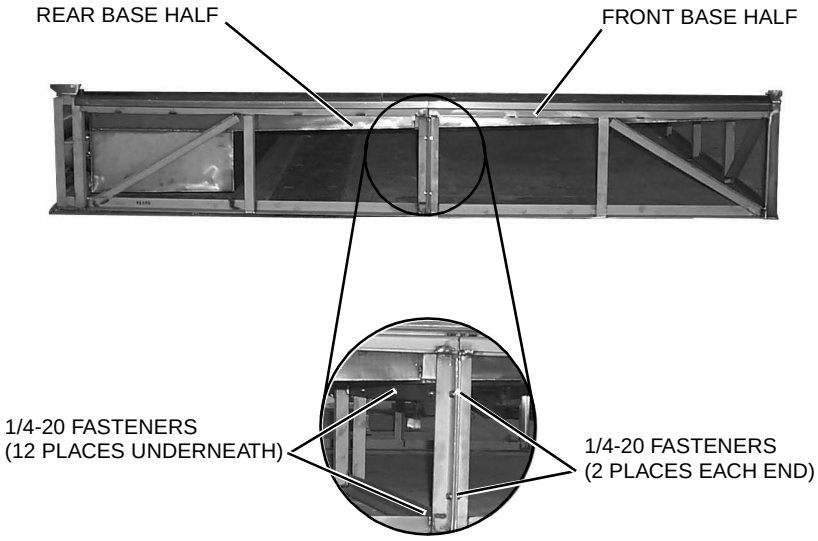
Installation

Silicone primer (orange) is extremely flammable, harmful if swallowed or inhaled, and harmful to eyes or skin. Wear protective clothing, gloves, and eye wear when using this product. Keep it away from heat, sparks, and flames. Store upright in a cool place (less than 30°C (85°F). Keep the container closed when not in use. Use only in a well-ventilated area. Avoid breathing vapors.

Silicone Primer stains/discolors clothing, stainless steel surfaces, flooring, etc. Avoid accidental spills. Avoid spreading this substance onto exterior surfaces of the washer.

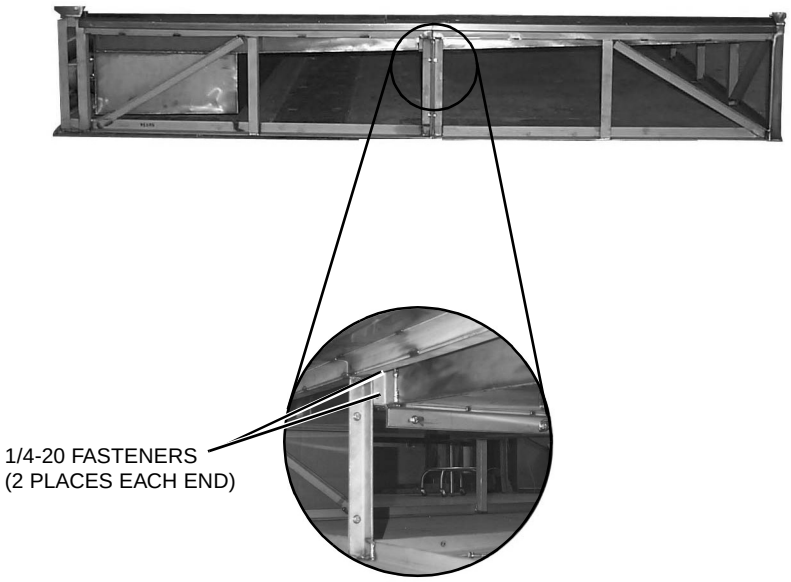
1. Clean all mating surfaces where the two halves of the base meet with thinner, treat with silicone primer, and then apply a generous amount of silicone sealant.
2. Move the two halves of the washer base together and attach the halves together:
   a. Underneath the sump, secure the angle brackets of the frame halves together with 1/4-20 fasteners (16 each 3/4" hex head bolts, lock washers, and nuts), as shown in Figure 2–1.
   The frame halves are secured with two sets of fasteners at each end and twelve sets along the length of the washer (nine on top and three on the bottom.

Figure 2–1. Base Frame Halves



   b. At each end, secure the front and rear sump halves together with 1/4-20 fasteners (two each 3/4" hex head cap screws, lock washers, and nuts) as shown in Figure 2–2.

Figure 2–2. Sump Halves



3. Move the base assembly into its final operating position.
4. Check the base for level.
   Use the 4' level to check from all sides of the base and in all directions. Adjust the level if necessary using the stainless steel shims that are provided.

CAUTION

Failure to critically level the base will result in the misalignment of mounting holes and will make assembly of the washer panels difficult.

If seismic anchoring is required, a 3" flange (with anchor bolt holes) is welded to the bottom frame of the base for this purpose.

5. Drill holes for the anchors through the holes in the base flanges.

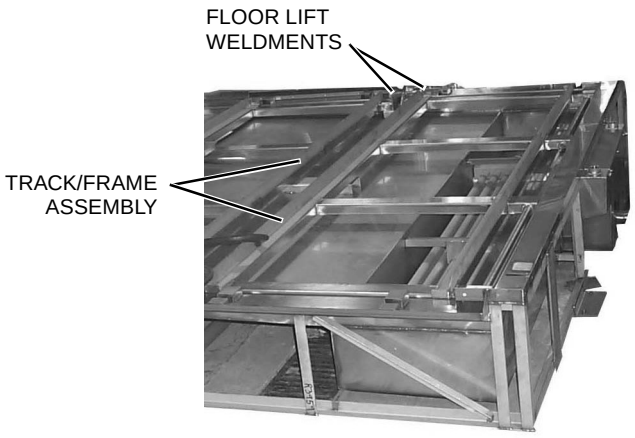
Table 2–1. Drilling Specifications

Drill Bit Size	1/2"
Embedment	1 1/4" to 3 1/2"
Torque	50 ft.-lb.

6. Secure the base to the floor using the 1/2 x 4-1/2" stud anchor bolts provided.

7. Lay the two track/frame assemblies into the base so that the floor lift weldments are toward the center of the washer, as shown in Figure 2–3. Track/Frame Assemblies

Figure 2–3. Track/Frame Assemblies



8. Place the debris screens over the opening to the sump.
9. Lay the six floor grates in the tracks into the track/frame assemblies.

NOTE

It is recommended that you place a layer of protective material, such as cardboard or masonite, on the floor grates on each side of the washer chamber to protect the floor grates during the rest of the installation.

Assemble the Washer Panels

Objective

Assemble the door, side, and top panels. Install the required number of interior side panel seam cover strips and the center mounting bracket.

There are six side panels and three top panels. Each of the end (door) panels in turn consists of five panels: three vertical panels and two horizontal panels (one over each door) that connect to the vertical panels.

Door panels and side panels are marked to indicate their location. Top panels are not marked (check this). The unload end top panel has two rectangular cutouts for the condenser mountings, a cutout for one of the rear dryer ducts, and numerous threaded holes on its exterior surface for mounting the dryer assemblies. The load end top panel one cutout for the second rear dryer duct and has fewer mounting holes (for a transformer and plumbing mounting plates). the middle panel has mounting brackets for the floor tilt actuators. The width of a top panel is the width of the washer (92").

The side panels have 7/16" diameter holes that carry 3/8" thru bolts (five on each side of the washer) to hold the panels together. The top panels have holes to carry five thru bolts.

There is no established order to follow for panel assembly. You can start from the load or the unload end. You can assemble all the vertical panels first, followed by the top panels; or you can add individual top panels as you erect the vertical panels. The method illustrated below starts from the load end and progressively adds top panels as the vertical panels are erected.

You must clean all mating surfaces with thinner, then treat with silicone primer, and then apply a generous amount of silicone sealant.

Installation

Refer to Figure 2–4. Washer Panel Assembly for help to identify the washer panels.

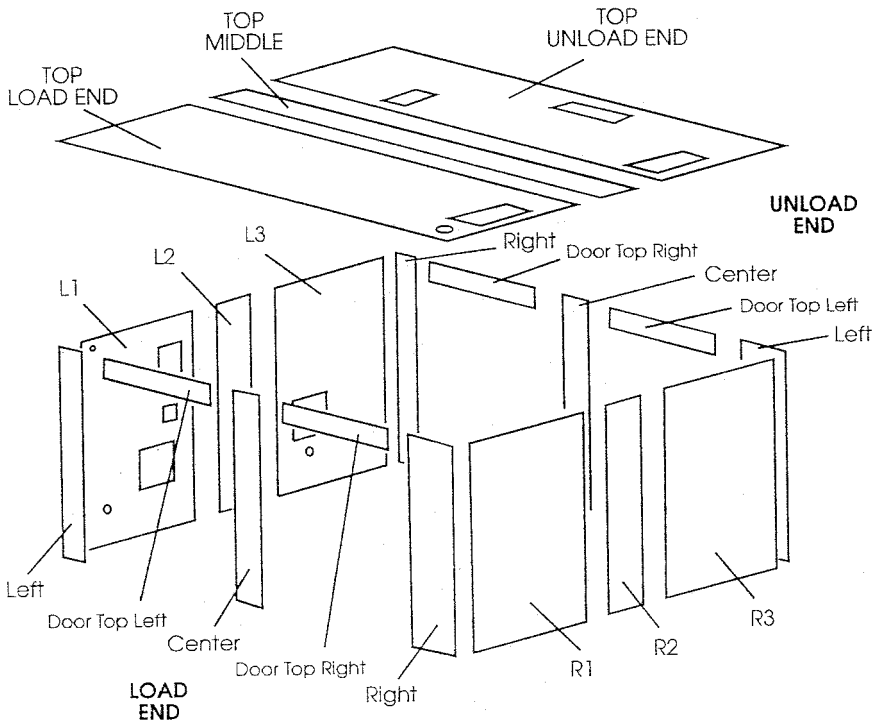
You must clean all mating surfaces with thinner, then treat with silicone primer, and then apply a generous amount of silicone sealant.

Silicone primer (orange) is extremely flammable, harmful if swallowed or inhaled, and harmful to eyes or skin. Wear protective clothing, gloves, and eye wear when using this product. Keep it away from heat, sparks, and flames. Store upright in a cool place (less than 30°C (85°F). Keep the container closed when not in use. Use only in a well-ventilated area. Avoid breathing vapors.

CAUTION

Silicone Primer stains/discolors clothing, stainless steel surfaces, flooring, etc. Avoid accidental spills. Avoid spreading this substance onto exterior surfaces of the washer.

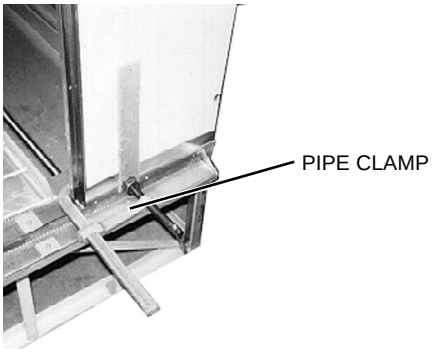
Figure 2–4. Washer Panel Assembly



1. Clean all mating surfaces (where a wall panel is attached to the base or another panel) with thinner, treat with silicone primer, and apply a generous bead of silicone sealant.
2. Attach the load end door panels to the base. There are three vertical panels. The service side panel is narrow and has three mounting holes at the top to attach to the horizontal panels, the middle panel is narrow and has six mounting holes at the top, and the non-service side panel is wide.
   a. Position a vertical panel.
   b. Secure the bottom of the panel to the base with 1/4-20 fasteners (1/2" hex head bolts, flat washers, and lock washers).
   c. Repeat steps a and b for the other vertical panels.
   d. Secure each horizontal panel between two vertical panels with 1/4-20 fasteners (six each 3/4" hex head bolts and lock washers).

3. Attach the load end side panels to the base and to the load end door.
   a. Position one of the load end side panels.
   b. Partially insert five 3/8" diameter thru rods through the 7/16" diameter holes to stabilize and align the side panel with the door panel.
   c. Use pipe clamps to draw the panels tight as shown in Figure 2–5.

Figure 2–5. Installing Washer Panels



   d. Secure the bottoms of the side panel to the base frame with 1/4-20 fasteners (1/2" hex head bolts and lock washers).
   e. Repeat steps a through d for the other load end side panel.
4. Attach the middle side panels to the base and to the load end panels.
   a. Remove the pipe clamps.
   b. Position one of the middle side panels.
   c. Extend the five thru bolts to stabilize and align the panels with the load end side panel.
   d. Attach the pipe clamps to draw these panels tight.
   e. Secure the bottoms of the middle Side panel to the base frame with 1/4-20 fasteners (1/2" hex head bolts and lock washers).
   f. Repeat steps a through d for the other middle side panel.
   g. To ensure side panel alignment, attach C-clamps and 2x4" wooden blocks across the top edge of the adjoining panels at the vertical seam.

5. Attach the load end top panel to the door panel and to the load end side panels.
    a. Position the load end top panel.
    b. Secure the top panel to the door and load end side panels with 1/4-20 fasteners (1-3/4" hex head bolts, flat washers, and lock washers).
    c. Partially insert the five remaining 3/8" diameter thru bolts through the 7/16" diameter holes in the panel.
6. Attach the unload end side panels to the base and to the middle (or load end) side panels.
    a. Remove the pipe clamps.
    b. Position one of the unload end side panels.
    c. Extend the five thru bolts to stabilize and align this panels with the previously erected panels.
    d. Attach the pipe clamps to draw these panels tight.
    e. Secure the bottom of the unload end side panel to the base frame with 1/4-20 fasteners (1/2" hex head bolts and lock washers).
    f. Repeat steps a through d for the other unload end side panel.
    g. Move the C-clamp and 2" x 4" wooden block assemblies to the vertical seams created by the installation of these panels.
7. Attach the middle top panel to the load end top panel and to the middle side panels.
    a. Position the middle top panel.
    b. Extend the two thru bolts.
    c. Secure this panel to the middle side panels with 1/4-20 fasteners (1-3/4" hex head bolts, flat washers, and lock washers).

8. Attach the unload end door panels to the base and to the unload end side panels.
    a. Remove the pipe clamps.
    b. Position a vertical panel.
    c. Secure the bottom legs of the panel to the base frame with 1/4-20 fasteners (1/2" hex head bolts, flat washers, and lock washers).
    d. Repeat steps a and b for the other vertical panels.
    e. Secure each horizontal panel between two vertical panels with 1/4-20 fasteners (six each 3/4" hex head bolts and lock washers).
    f. Extend the ten side thru bolts.
    g. Attach the pipe clamps to draw the door panels tight.
    h. Secure the thru bolts at both ends of the washer with 3/8" acorn nuts and flat washers.
9. Attach the unload end top panel to the unload end side panels and to the unload end door panel.
    a. Remove the C-clamp assemblies.
    b. Position the unload end top panel.
    c. Extend the five thru bolts.
    d. Secure this panel to the unload end door panels and side panels with 1/4-20 fasteners (1-3/4" hex head bolts, flat washers, and lock washers).
    e. Secure the thru bolts at both ends of the washer with 3/8" acorn nuts and flat washers.
10. Inside the washer, attach the four panel seam cover strips over the vertical seams between adjoining side panels using #10-32 fasteners (six each screws and lock washers per cover strip).

Figure 2–6. Center Mounting Plate

11. Attach the center mounting plate inside the washer, from the load end to the unload end, as shown in Figure 2–6.
    a. Align the holes in the mounting plate with the threaded holes along the center of the washer.
    b. Secure the mounting plate to the washer with six 1/4-20 fasteners (3/4" hex head cap screws, lock washers, and flat washers).
    The mounting plate is attached to the top panels in four places and once in each center end panel.

Channel Fillers and Threshold Assemblies

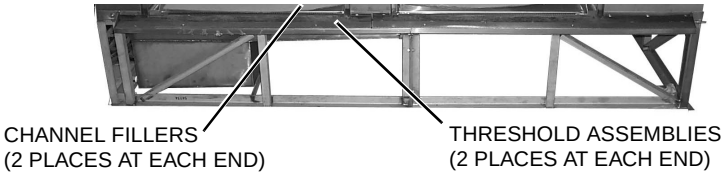
Objective

Install two channel fillers on the floor just inside each end of the washer. Install two threshold assemblies just outside each end of the washer.

Installation

Refer to Figure 2–7. Channel Fillers and Threshold Assemblies.

Figure 2–7. Channel Fillers and Threshold Assemblies



1. Position the four channel fillers (two on each end of the washer) in the floor and secure each with two #10-32 x 3/8" phillips head screws.
2. Install the four threshold assemblies in the floor.

NOTE

There are two sizes: the longer threshold is installed on the rear (non-service side) of the washer, one on each end. The shorter threshold is installed on the front (service side) of each end.

   a. Position one threshold assembly in its appropriate location with the gasket facing toward the inside of the washer.
   b. Secure the assembly to the washer base with two #10-32 x 3/8" phillips head screws.

Door Assembly

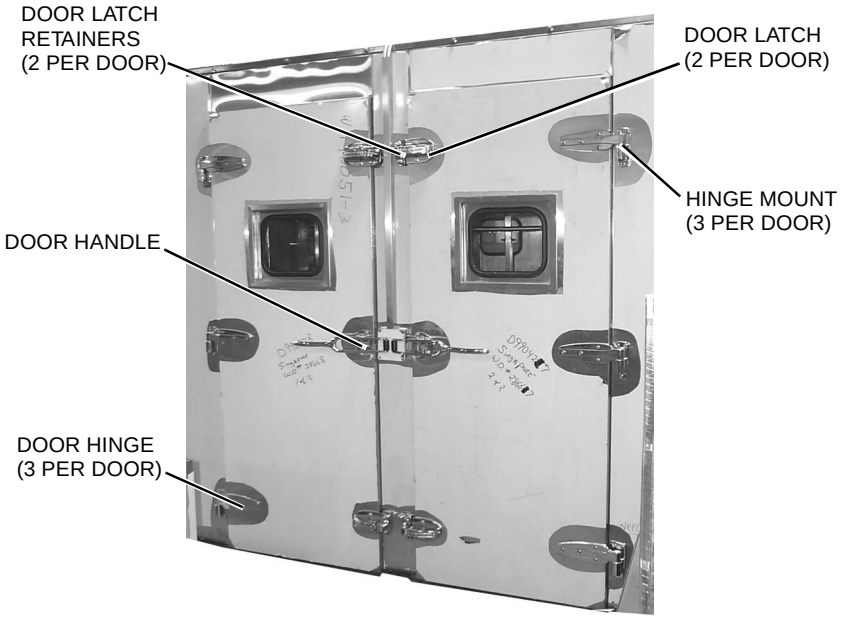
Objective

Attach hardware to the doors and related door panels. Install two doors each on both the load and unload ends of the washer. Plumb and square all four doors.

Installation

Refer to Figure 2–53. Door Assembly.

Figure 2–8. Door Assembly



WARNING

A washer door is heavy and awkward to handle. Take care to avoid crushing or strain injuries.

NOTE

The washer may be shipped with all of the hardware (hinges, latches, striker plates, etc.) already mounted on both the doors and the door panels. If so, start with step 3 below.

1. Attach the following items to each door panel:
   a. Attach three hinge mounts using nine 1/4-20 fasteners (1" phillips head screws).
   b. Attach two door latch retainers, two door latch shims, and two spacers using four 5/16-18 fasteners (2" hex head cap screws and lock washers).
2. Attach the following items to each door:
   a. Attach two door latches using four 5/16-18 fasteners (1" hex head cap screws and lock washers).
   b. Attach three hinges using twelve 1/4-20 fasteners (1" phillips head screws).
   c. Attach the door handle using four 5/16-18 fasteners (1" hex head cap screws and lock washers).
3. Check the door opening for plumb and square. If necessary, use the shims that are provided.
4. Mount the door on the washer.
   a. Raise and maneuver the door until its hinge posts are in vertical alignment over the three hinge mounts attached to the door panel.
   b. When aligned, lower the door and properly seat all three posts in their respective mounts.

Repeat steps 1 through 4 for the other door assemblies.

After the plumb and square of all doors is checked and corrected, it may be easier to lift the doors off their hinges and set them aside until the washer installation is complete.

Trim Panels (Non-Service Side)

Objective

The narrow width of the trim panels and the presence of a restrictive wall may require that you assemble the washer out-of-position up to this point. After you attach the panels, you can move the washer to its exact operational position, where you can level the washer, and seismically anchor it if required.

Installation

1. Attach any required trim panels to the non-service side of the washer using #10-32 fasteners (3/8" pan head screws and lock washers).
2. If necessary, move the washer to its final position. Level and, if required, anchor the washer.

Install Components on Top of the Washer

There are a number of components that are installed on the top panels of the washer. Although there is no specific order in which the components should be installed, the list below presents the items in a recommended order. Refer to the following sections.

- “Dryer and Condenser Assemblies” on page 2-15
- “Power Floor Tilt Pulley System” on page 2-20
- “Transformer and Emergency Stop Switch Junction Box” on page 2-22
- “Rear Emergency Stop Switch” on page 2-23
- “Plumbing Mounting Brackets” on page 2-24

Before installing any components on top of the washer, you must ensure that the door openings are plumb and square. Failure to do so can result in doors that do not open and close correctly, as well as water leaks.

Dryer and Condenser Assemblies

Objective

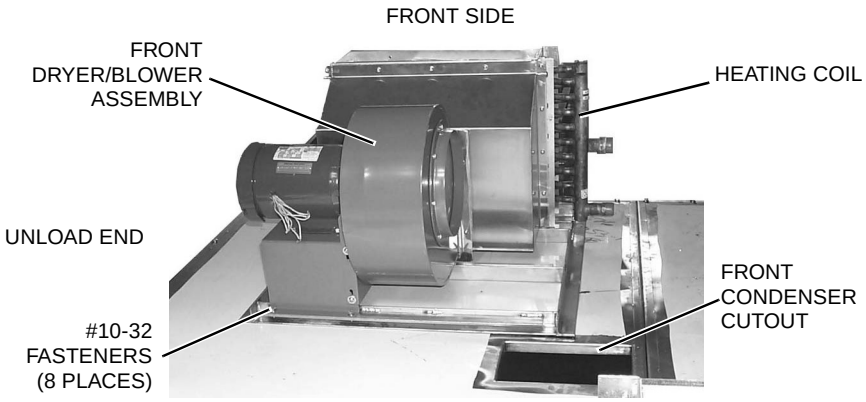
Assemble the two dryer/blower assemblies, the two condenser duct assemblies, and the rear top dryer duct.

Generally, the dryer assemblies are mounted on top of the washer. When sufficient space is not available, these assemblies are redesigned for installation in the unit’s service area. These configurations vary and are not accurately represented in these Installation Instructions. To install the dryer assemblies in the washer's service area, refer to the Rough-In Drawing for guidance.

Installation

1. Install the front dryer/blower assembly and the condenser on the washer.

Figure 2–9. Front Dryer/Blower Assembly



a. Position the front dryer/blower assembly on top of the unload end top panel with the steam heating coils aligned with the front (service side) of the washer, as shown in Figure 2–9.

NOTE

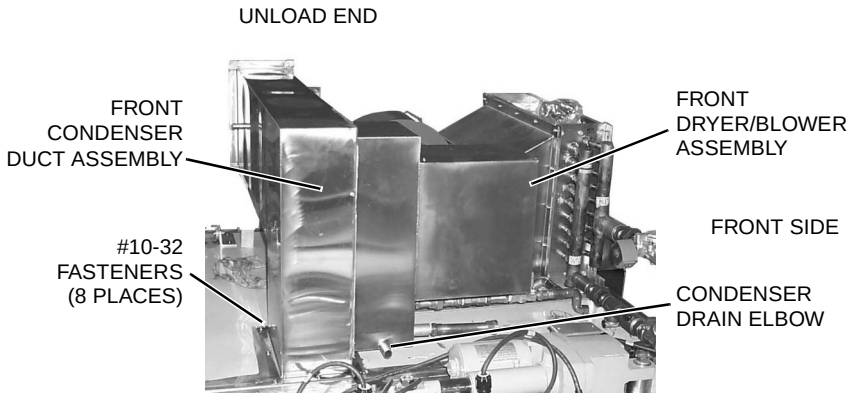
The front (service side) dryer is normally located at the unload end of the washer and oriented so that the heating coil faces the side of the washer.

b. Align the holes in the assembly's mounting frame with the matching #10-32 threaded holes in the panel.

c. Apply sealant to the screw threads and secure the frame to the panel with #10-32 fasteners (eight each 3/4" slotted pan head screws, lock washers, and flat washers).

d. Apply silicone sealant to the edge of the front condenser cutout in the top panel.

Figure 2–10. Front Condenser Assembly



e. Place the front condenser duct assembly on the unload end top panel. Position the assembly with the intake flange over the cutout in the top panel and the condenser vent pointed over the unload end doors, as shown in Figure 2–10.

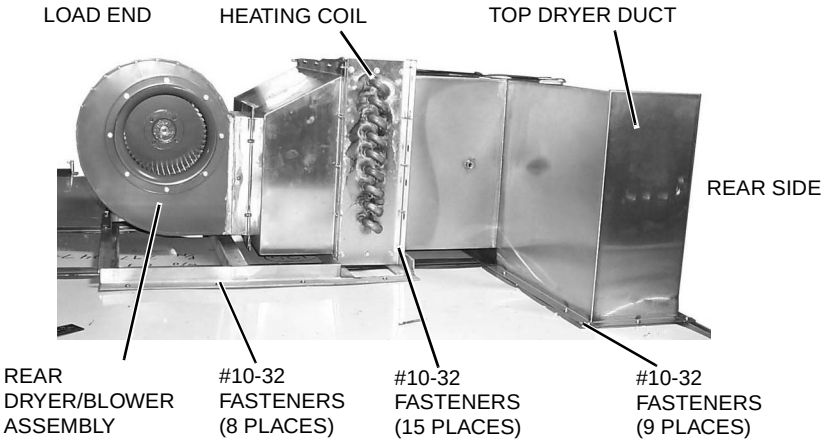
f. Align the holes in the assembly's flange to the matching #10-32 threaded holes around the outside of the opening in the panel.

g. Secure the condenser's flange to the top panel with #10-32 (eight each 3/4" phillips head screws, lock washers, and flat washers).

h. Attach the 9" vent hose to the condenser and to the dryer with hose clamps.

2. Install the rear dryer/blower assembly, condenser, and top dryer duct on the washer.

Figure 2–11. Rear Dryer/Blower Assembly



a. Position the rear dryer/blower assembly on top of the middle top panel with the steam heating coil facing toward the two cutouts for the rear dryer duct, as shown in Figure 2–11.

b. Align the holes in the assembly's mounting frame with the matching #10-32 threaded holes in the panel.

c. Apply sealant to the screw threads and secure the frame to the panel with #10-32 fasteners (eight each 3/4" slotted pan head screws, lock washers, and flat washers).

d. Apply silicone sealant to the edge of the front condenser cutout in the top panel.

e. Apply silicone sealant to the mating flange surrounding the rear dryer's heating coil and to the mating surfaces surrounding the two 18" x 7-1/2" rectangular cutouts in the top panels.

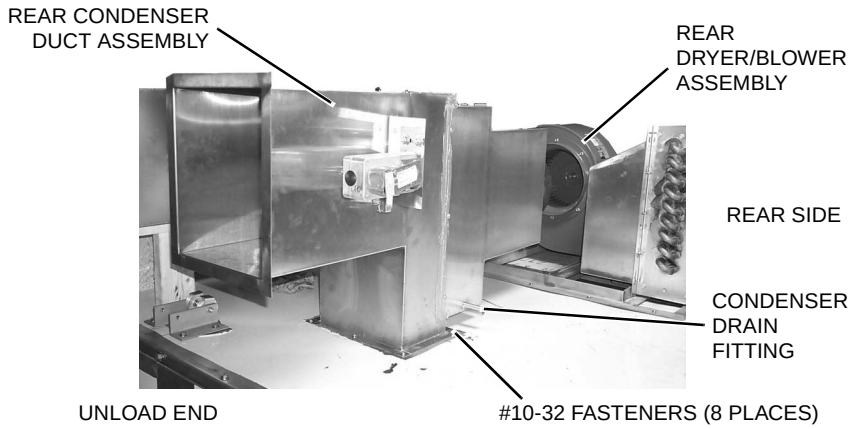
f. Position the rear dryer duct on top of the washer.

g. Secure the duct to the heating coil flange with #10-32 fasteners (fifteen each 1/2" phillips head screws, lock washers, and flat washers).

h. Secure the duct to the top panel with nine #10-32 fasteners per cutout (nine each 1/2" phillips head screws, lock washers, and flat washers).

i. Inside the washer compartment, apply additional sealant to the interior joints formed between the duct and the panel.

Figure 2–12. Rear Condenser Assembly



j. Place the front condenser duct assembly on the unload end top panel. Position the assembly with the intake flange over the cutout in the top panel and the condenser vent pointed over the unload end doors, as shown in Figure 2–12.

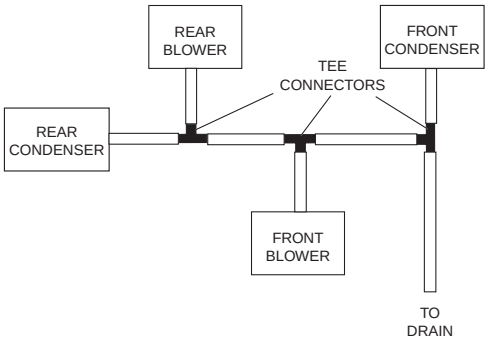
k. Align the holes in the assembly's flange to the matching #10-32 threaded holes around the outside of the opening in the panel.

l. Secure the condenser's flange to the top panel with #10-32 (eight each 3/4" phillips head screws, lock washers, and flat washers).

m. Attach the 9" vent hose to the condenser and to the dryer with hose clamps.

3. Connect the drain output from each of the condensers and the elbow fitting located beneath each blower to drain using 3/4" diameter flexible tubing, hose clamps, and tee connectors. Refer to Figure 2–13.

Figure 2–13. Condenser and Dryer Drain Tubing



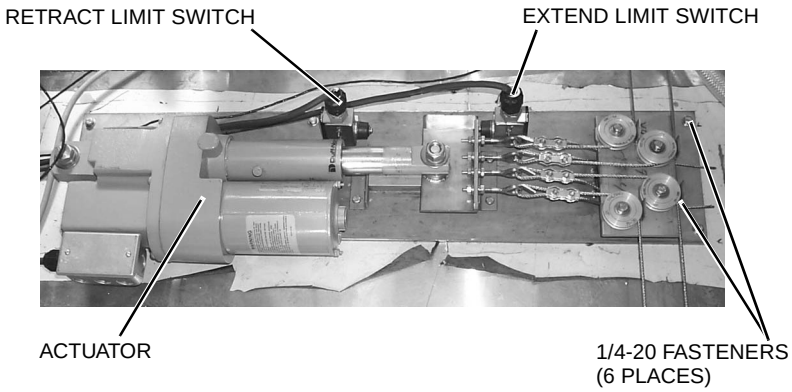
Power Floor Tilt Pulley System

Objective

Install the power floor tilt pulley system. The top panels have 1/4-20 threaded holes to mount the system's five components. The actuator assembly is installed on the top middle panel, with the actuator mounted on the front (service) side and the pulleys in the middle. The pulley cables run the length of the washer from the middle to ends of the washer above the load and unload end doors.

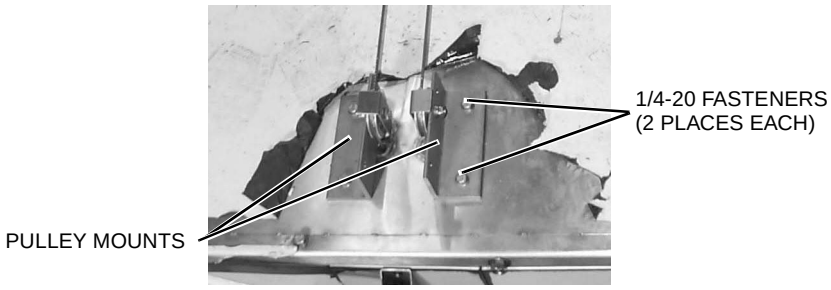
Installation

Figure 2–14. Power Floor Tilt Actuator Assembly



1. Install the following components on the service side of the washer's top panels:
   a. Align the actuator assembly with the holes in the top panel and secure with six 1/4-20 fasteners. Refer to Figure 2–14. Power Floor Tilt Actuator Assembly.
   b. Secure the two load end pulley mounts to the middle of the load end top panel with 1/4-20 fasteners (two each 1/2" hex head screws, lock washers, and flat washers). Refer to Figure 2–15. Power Floor Tilt Pulley Mounts.
   c. Secure the two unload end pulley mounts to the middle of the unload end top panel with 1/4-20 fasteners (two each 1/2" hex head screws, lock washers, and flat washers).

Figure 2–15. Power Floor Tilt Pulley Mounts



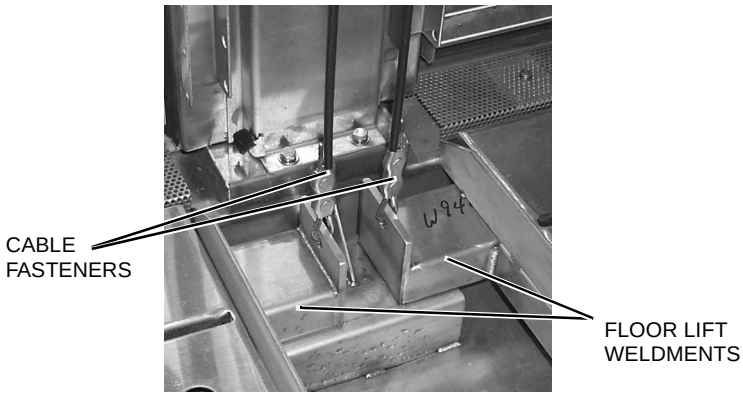
2. Route the four pulley cables from the actuator, through the pulley mounts, and then down through the four gasketed cable holes in the paneling to the compartment floor.

NOTE

You may have to enlarge a gasket hole with a drill if the cable does not fit through the hole.

3. Slide the black cable sleeves over the section of cable inside the washer.
4. Using a cable fastener, secure each of the four pulley cables to its corresponding floor lift weldment. Refer to Figure 2–16. Attaching Cables to Floor Lift Weldments.

Figure 2–16. Attaching Cables to Floor Lift Weldments



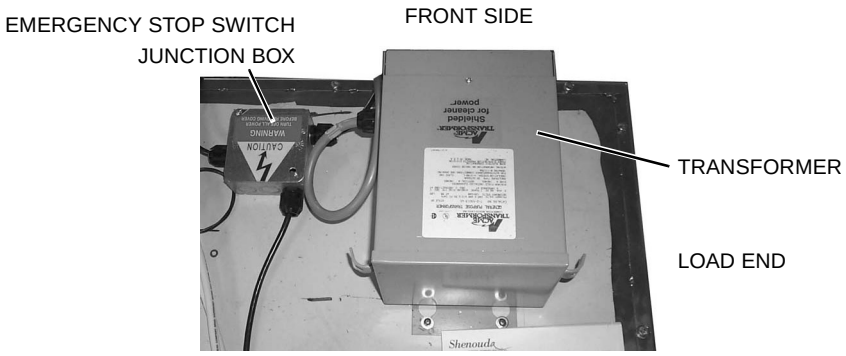
5. Using #6-32 fasteners, attach the two limit switches to the actuator's mounting plate.

Transformer and Emergency Stop Switch Junction Box

Objective

Install the transformer and the junction box for the emergency stop switches to the top of the washer. The specific transformer used with your washer depends on the house-supplied voltage.

Figure 2–17. Transformer and Emergency Stop Junction Box Locations



Installation

Refer to Figure 2–17. Transformer and Emergency Stop Junction Box Locations.

1. Install the transformer.

   Transformers are sized differently but are generally located on the service side of the load end top panel and positioned so that the output power cable is facing the service side fo the washer.

1. Align the transformer's mounting holes to the threaded holes in the panel.
   a. Secure the transformer to the panel with four 1/4-20 fasteners.
2. Install the emergency stop switch junction box.
   a. Remove the face plate of the box.
   b. Align the mounting holes in the back of the box with the two #10-32 threaded holes on the top panel near the transformer you installed above.
   c. Use #10-32 fasteners to secure the box to the washer.
   d. Install the face plate.

Rear Emergency Stop Switch

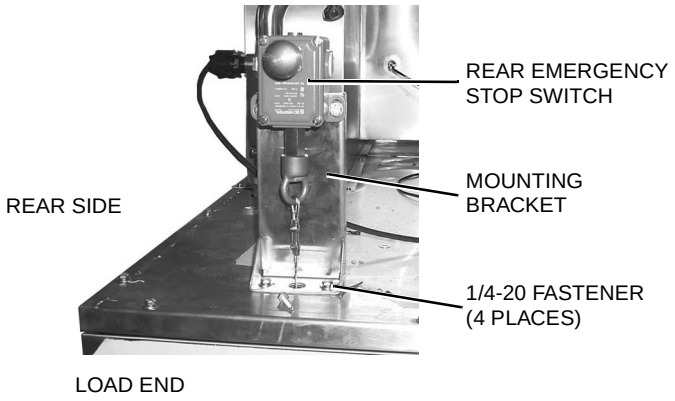
Objective

Attach the rear emergency stop switch to the top of the washer. The switch is mounted on the rear (non-service side) of the washer at the load end.

Installation

Refer to Figure 2–18. Rear Emergency Stop Switch.

Figure 2–18. Rear Emergency Stop Switch



1. Mount the emergency stop switch to the mounting bracket using 1/4-20 fasteners (two each hex head cap screws, lock washers, and flat washers).
2. Align the two holes in the mounting bracket with the holes on the load end top panel.
3. Secure the bracket and switch to the washer with 1/4-20 fasteners (two each hex head cap screws, lock washers, and flat washers).

Plumbing Mounting Brackets

Objective

Attach four mounting brackets to the top of the washer to support the piping for the rear side of the washer.

Installation

1. Determine the correct location for each bracket. The brackets are marked with index markers that match numbers on the top panel.
2. Align the holes in one mounting bracket with the two holes in the top of the washer.
3. Secure the bracket with 1/4-20 fasteners (two each hex head cap screws, lock washers, and flat washers).
4. Repeat steps 2 and 3 for the other brackets.

Install Components on the Outside of the Washer

This section provides instructions for installing equipment on the outside of the washer. The procedures are presented in a recommended order (some larger components are easier to install if they are done earlier, for example). Refer to the following sections.

- “Spray Manifold Drive Motor” on page 2-26
- “Exhaust Elbow” on page 2-27
- “Washer Light Assembly” on page 2-28
- “Front Dryer Ducts” on page 2-29
- “Control Box” on page 2-31
- “Junction Box Assembly” on page 2-32
- “Front Emergency Stop Switch” on page 2-33
- “Detergent and Rinse Aid Dispensers” on page 2-34
- “Unload End Indicator Panel Box” on page 2-35
- “Door Proximity Switches” on page 2-36
- “Sump Drain Valve” on page 2-37
- “Wash Pump” on page 2-38
- “Booster Heater Assembly” on page 2-39

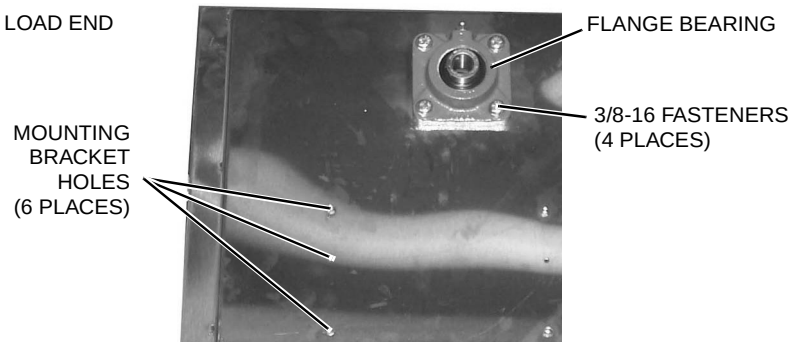
Spray Manifold Drive Motor

Objective

Assemble the spray manifold's flange bearing and the spray manifold drive motor.

Installation

Figure 2–19. Manifold Drive Flange Bearing

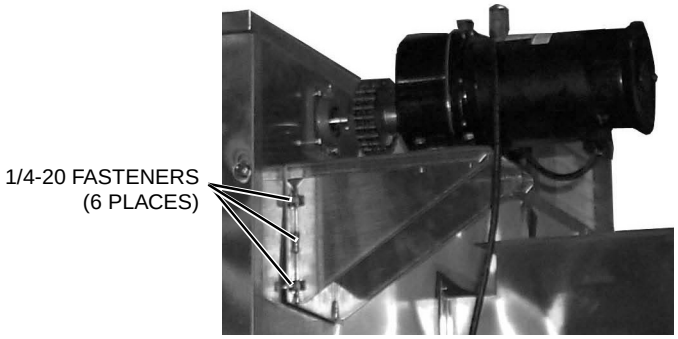


1. Use 3/8"-16 fasteners (four each 1" hex head cap screws and lock washers) to loosely secure the flange bearing in position at the upper corner of the load end side panel, as shown in Figure 2–19.

NOTE

You will tighten the bearing after you assemble the drive shaft and couple it to the drive motor (refer to "Chain Drive Assembly" on page 2-49).

Figure 2–20. Spray Manifold Drive Motor



2. As shown in Figure 2–20, position the spray drive manifold motor and bracket over the six threaded holes located in the panel directly below the flange bearing and use 1/4-20 fasteners (six each 3/4" hex head cap screws, lock washers, and flat washers) to secure the mounting fixture to the panel.

Exhaust Elbow

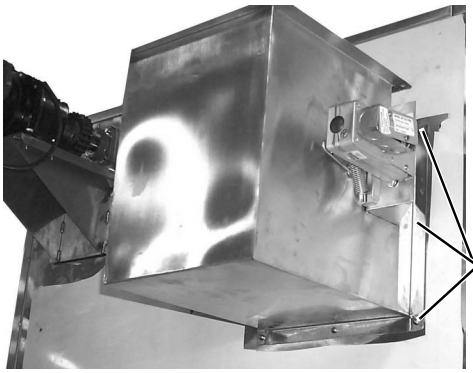
Objective

Install the exhaust elbow on the side of the washer.

Installation

Refer to Figure 2–21. Exhaust Elbow.

Figure 2–21. Exhaust Elbow



1. Apply silicone sealant to the mating surface surrounding the 12" cutout next to the spray manifold drive motor.
2. Position the exhaust elbow against the cutout and secure with 1/4-20 fasteners (eight each hex head cap screws, lock washers, and flat washers).
3. Inside the washer compartment, apply additional sealant to the interior joint formed between the elbow and the side panel.

Washer Light Assembly

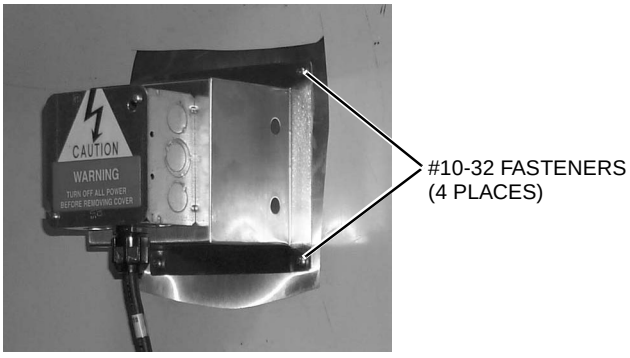
Objective

Install the interior light in the cutout located on the front (service side) wall.

Installation

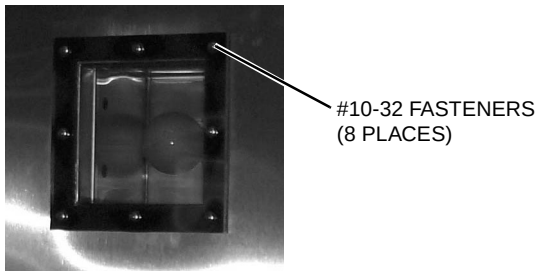
1. Remove and retain the eight fasteners securing the interior lens and gasket to the light assembly. Set the lens and gasket aside.
2. Apply silicone sealant around the edge of the light assembly.
3. Align the holes in the light assembly with the holes surrounding the cutout in the front panel.
4. Secure the light assembly to the front panel with four #10-32 fasteners (phillips head screws and flat washers) as shown in Figure 2–22.

Figure 2–22. Washer Light Assembly (Outside)



5. On the inside of the washer, place the gasket and cover over the light assembly and secure with eight #10-32 fasteners (phillips head screws, lock washers, and flat washers) as shown in Figure 2–23.

Figure 2–23. Washer Light Assembly (Inside)



Front Dryer Ducts

Objective

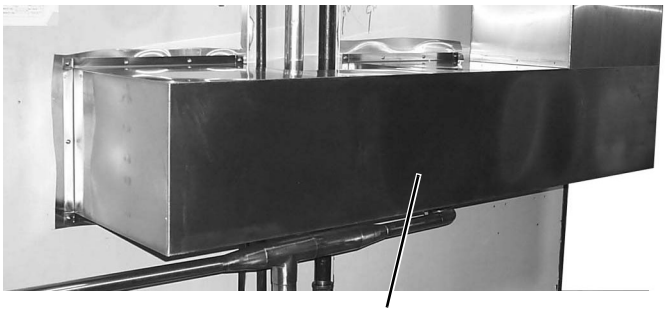
Mount the front dryer ducts.

The front (service side) dryer duct connects the dryer's heating coil to two 13-1/4" x 18" cutouts in the side panels. Generally, the duct work consist of a vertical and a horizontal section. However, other configurations are possible if the dryer is mounted against the side of the unit. The rear (non-service side) dryer duct connects to two cutouts on the top panel of the washer, which in turn, connect to the two rear dryer ducts on the inside of the washer.

Installation

1. Install the lower (horizontal) section of the front (service side) dryer duct. Refer to Figure 2–24. Horizontal Section of Front Dryer Duct.

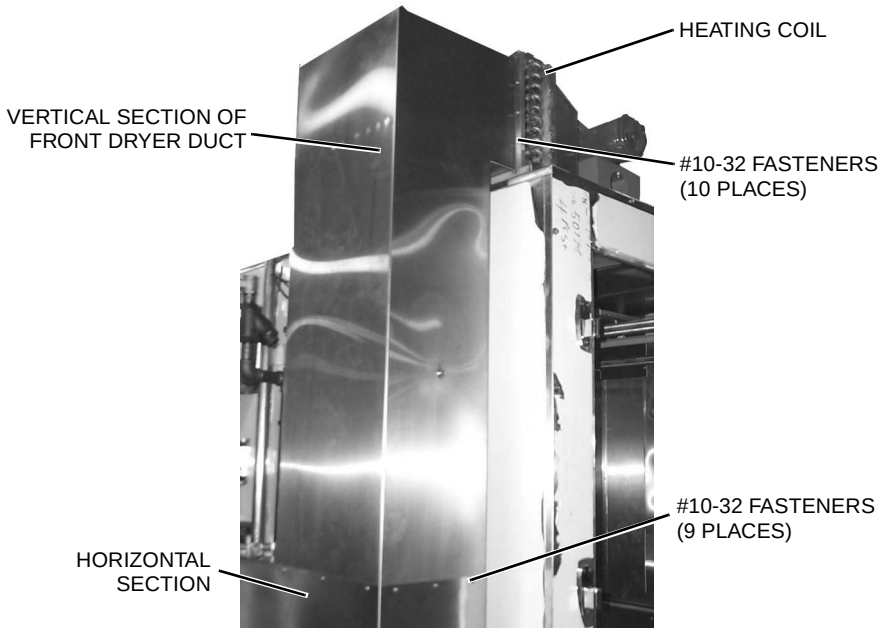
Figure 2–24. Horizontal Section of Front Dryer Duct



   a. Apply silicone sealant to the mating surfaces surrounding the 18" x 13-1/4" rectangular cutouts in the front (service side) side panels.
   b. Secure the horizontal section of the duct to the cutouts with ten #10-32 fasteners (1/2" phillips head screw, lock washer, and flat washer) per cutout.
   c. Inside the washer compartment, apply additional sealant to the interior joints formed between the duct and the panel.

2. Install the upper (vertical) section of the front dryer duct. Refer to Figure 2–24. Horizontal Section of Front Dryer Duct.

Figure 2–25. Vertical Section of the Front Dryer Duct



a. Apply silicone sealant to the mating flange surrounding the dryer's heating coil and to the mating surface between the vertical and horizontal ducts.

b. Position the vertical duct on the horizontal duct.

c. Secure the upper end to the heating coil flange with #10-32 fasteners (fifteen each 1/2" phillips head screws, lock washers, and flat washers).

d. Secure the lower end to the horizontal duct with #10-32 fasteners (nine 1/2" phillips head screws, lock washers, and flat washers).

NOTE

One or more standoffs may have been welded to the dockworker to support a plumbing assembly. Clamps are provided to secure plumbing to standoffs.

Control Box

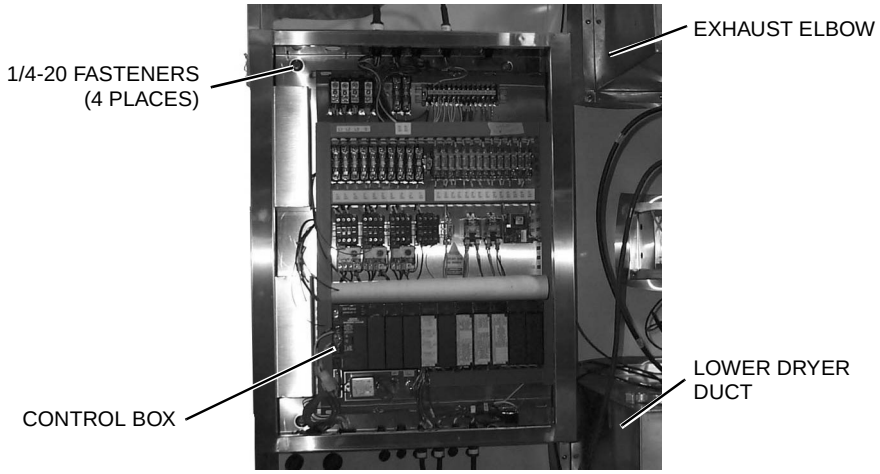
Objective

Attach the control box to the load end side panel.

Installation

Refer to Figure 2–26. Control Box.

Figure 2–26. Control Box



1. Remove the pins from the door hinges and set the door aside.
2. Position the control box on the load end side panel and align the mounting tabs on the top and bottom of the box with the four threaded holes in the panel.
3. Use 1/4-20 fasteners (4 each 3/4" hex head cap screws, flat washers, and lock washers) to secure the control box to the panel.
4. Install the door on the control box.

Junction Box Assembly

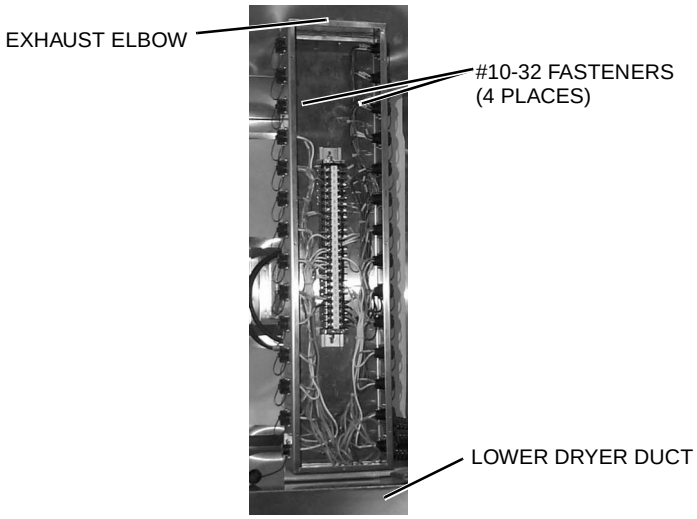
Objective

Install the junction box assembly to the side of the washer.

Installation

Refer to Figure 2–27. Junction Box Assembly.

Figure 2–27. Junction Box Assembly



1. Position the junction box and align its mounting holes with those on the front panel of the exhaust elbow and on the top of the lower dryer duct.
2. Secure the junction box to the exhaust elbow and to the dryer duct using #10-32 fasteners (four each 3/8"pan head screws and lock washers).

Front Emergency Stop Switch

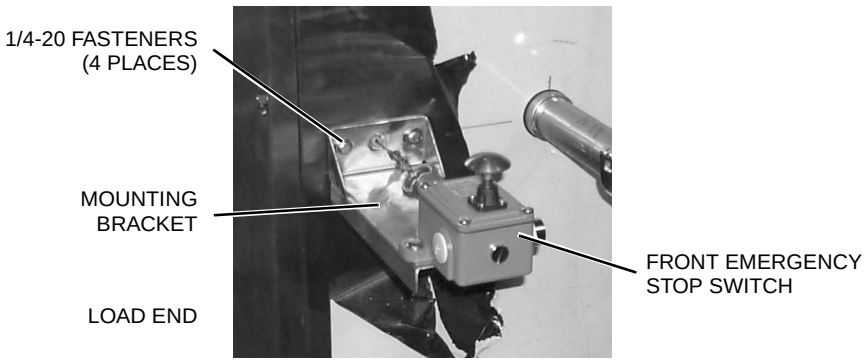
Objective

Attach the front emergency stop switch to the side panel of the washer. The switch is mounted at the load end of the washer, over the detergent dispenser.

Installation

Refer to Figure 2–28. Front Emergency Stop Switch.

Figure 2–28. Front Emergency Stop Switch



1. Mount the emergency stop switch to the mounting bracket using two 1/4-20 fasteners (hex head cap screws, lock washers, and flat washers).
2. Align the two holes in the mounting bracket with the holes on the load end side panel.
3. Secure the bracket and switch to the washer with two 1/4-20 fasteners (hex head cap screws, lock washers, and flat washers).

Detergent and Rinse Aid Dispensers

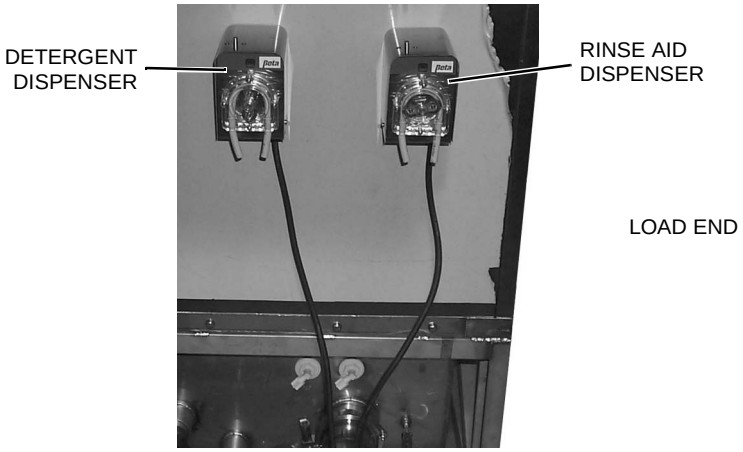
Objective

Mount the detergent dispenser on the unload end side panel, below the lower dryer duct.

Installation

Refer to Figure 2–29. Detergent and Rinse Aid Dispensers.

Figure 2–29. Detergent and Rinse Aid Dispensers



1. Remove the cover of detergent dispenser.
2. Align the mounting holes in the back plate with the left set of threaded holes in the panel.
3. Use two #10-32 fasteners to secure the dispenser in place.
4. Replace the cover.
5. Repeat steps 1 through 4 to install the rinse aid dispenser to the right of the detergent dispenser.

Unload End Indicator Panel Box

Objective

Mount the indicator panel box on the unload end of the washer.

Installation

Refer to Figure 2–30. Unload End Indicator Panel Box.

Figure 2–30. Unload End Indicator Panel Box

1. Remove the face plate of the box.
2. Align the mounting holes in the back of the box with the two #10-32 threaded holes at the edge of the unload end barrier panel.
3. Use #10-32 fasteners to secure the box to the panel.
4. Install the face plate.

Door Proximity Switches

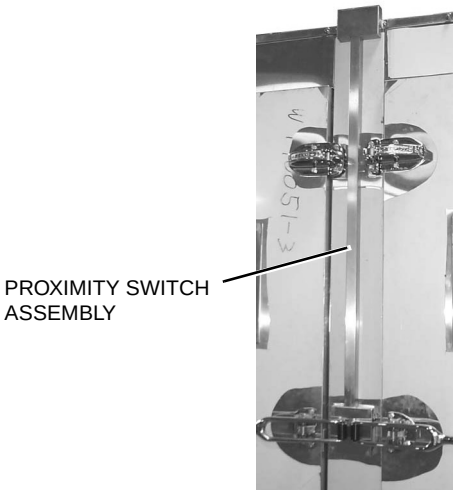
Objective

Install a proximity switch assembly on both the load and the unload end door panels.

Installation

Refer to Figure 2–31. Door Proximity Switches.

Figure 2–31. Door Proximity Switches



1. Orient the two ends of the switch assembly as shown in Figure 2–31 and align with the threaded mounting holes in the panel.
2. Use three #10-32 fasteners (phillips head screw and lock washer) to secure the top of the assembly to the middle panel above and between the doors.
3. Use four #10-32 fasteners (phillips head screw and lock washer) to secure the bottom of the assembly to the middle panel between the door latches.
4. Route the assembly's cables to the junction box on the service side of the washer:
   The load end cables, P3 and P5, connect to the junction box at J3 and J5, respectively. The unload end cables, P4 and P6, connect to the junction box at J4 and J6, respectively.
5. Repeat steps 1 through 4 for the other door assembly.

Sump Drain Valve

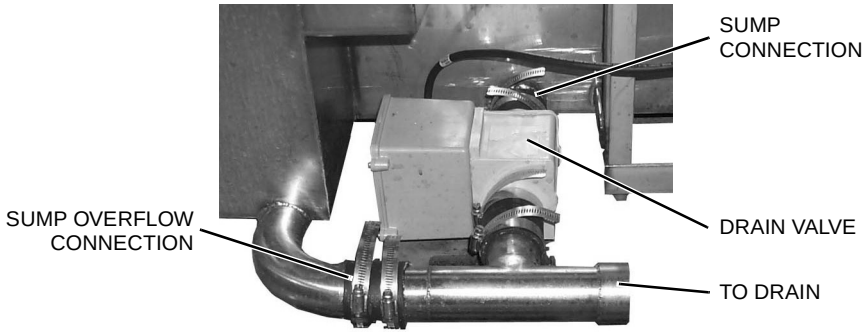
Objective

Install the motorized sump drain valve assembly.

Installation

Refer to Figure 2–32. Sump Drain Valve.

Figure 2–32. Sump Drain Valve



1. As shown in Figure 2–32, use a hose clamp to attach one flexible hose on the drain valve assembly to the 2" outlet on the sump.
2. Use a hose clamp to attach the hose from the drain valve to a stainless steel tee.
3. Connect the tee to the sump overflow elbow and route the the other end to drain.

Wash Pump

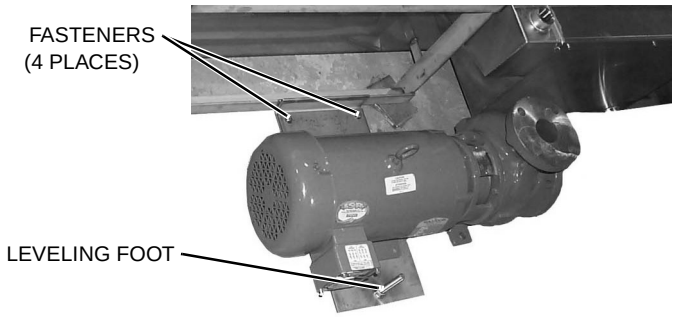
Objective

Install the wash pump on the service side of the washer and connect the intake to the sump.

Installation

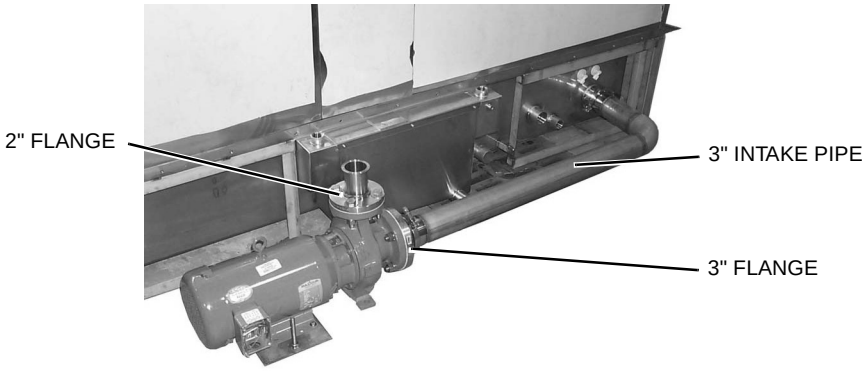
Refer to Figure 2–33. Wash Pump.

Figure 2–33. Wash Pump



1. Align the wash pump mounting bracket with the two holes in the angle bracket on the base frame and secure the bracket to the frame with 1/4-20 fasteners (two each 1/2" hex head cap screws, lock washers, and flat washers).
2. Check the mounting bracket for level. If necessary, use the leveling foot to adjust the level.

Figure 2–34.



3. Secure the 2" flange and gasket to the discharge of the pump with four each hex head screws, flat washers, lock washers, and nuts.
4. Secure the 3" flange and gasket to the intake of the pump with four each hex head screws, flat washers, lock washers, and nuts.
5. Connect the 3" pipe section between the pump’s intake and the 3" fitting on the sump.

Booster Heater Assembly

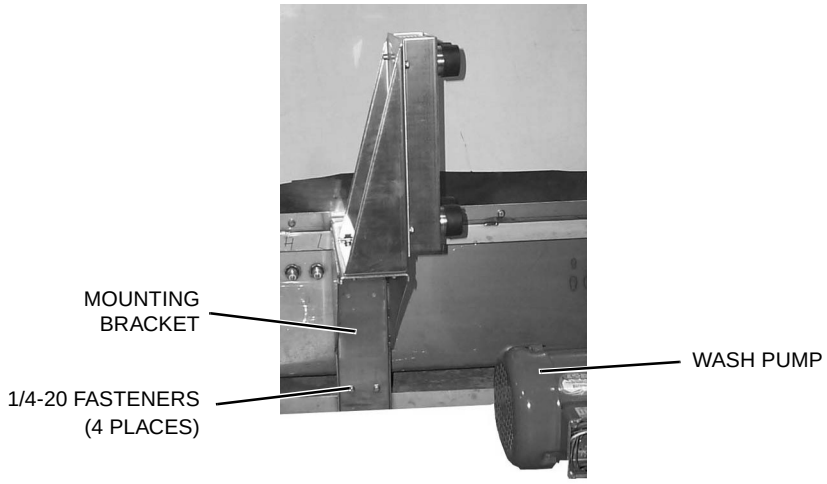
Objective

Install the booster heater assembly on the side of the base assembly at the unload end of the washer.

Installation

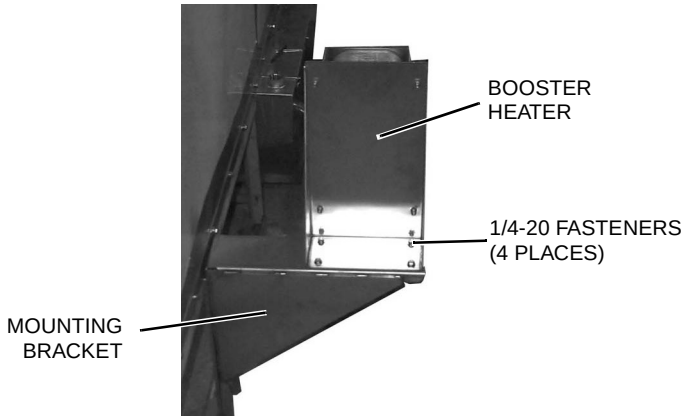
Refer to Figure 2–35. Booster Heater Assembly Mounting Bracket.

Figure 2–35. Booster Heater Assembly Mounting Bracket



1. Align the holes in the mounting bracket with holes in the base assembly at the unload end of the washer.
2. Secure the mounting bracket to the washer base.

Figure 2–36. Booster Heater Assembly



3. Position the booster heater assembly on the mounting bracket and align with the holes in the bracket.
4. Secure the assembly to the mounting bracket with 1/4-20 fasteners (four each 3/4" hex head cap screws, flat washers, and lock washers).

Plumbing

The washer plumbing is designed with a large number of quick-disconnect joints that enable service personnel to isolate problems and to replace components easily. When a washer is disassembled at the factory for shipment to a customer, plumbing sections are removed for efficient packing and quick assembly at the installation site. All plumbing sections are tagged at both ends to indicate what the section is connected to. The sections provide only general descriptions of the completed plumbing. For details of the plumbing for your site, refer to the drawings provided with your washer and to the information tagged to each plumbing section.

Stainless Steel Plumbing

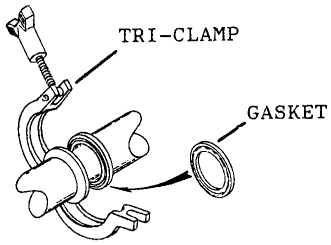
Objective

Install the washer's stainless steel tubing.

Installation

Refer to Figure 2–37. Typical Stainless Steel Plumbing Connector.

Figure 2–37. Typical Stainless Steel Plumbing Connector



The stainless steel plumbing for the washer consists of the following sections:

- The sump to the intake of the wash pump.
- The discharge of the wash pump to two 2-1/2" sanitary fittings on the front wall, and over the top of the washer to a 2-1/2" sanitary fitting on the rear of the load end top panel.
- The inside front wall to the two front manifold hoses.
- The inside rear wall to the rear manifold hoses.

Black Iron (Steam) Plumbing

Objective

Install the steam supply line and the condensate return line.

Installation

The black iron steam plumbing for the washer consists of the following sections:

- The utility connection to the booster heater, to the sump, and over the top of the washer to the two dryer heaters.
- Condensate from the dryer heaters, the booster heater, and the circulation tank.

Hot Water (Copper) Plumbing

Objective

Install the hot water supply line.

Installation

The copper plumbing for hot water consists of the following sections:

- The utility connection to the intake of the booster heater.
- The discharge of the booster heater to the sump.

Cold Water (Copper) Plumbing

Objective

Install the cold water supply line.

Installation

The copper plumbing for cold water consists of the following sections:

- The utility connection up over the top of the washer to the two condensers.
- The discharge of the condensers to the sump.

Electrical Wiring

Objective

Make all required electrical wire connections between the electrical components and the control box and junction boxes.

Installation

1. Route all component electrical cables, including thermocouple cables, from the control box or junction box to the appropriate electrical component.

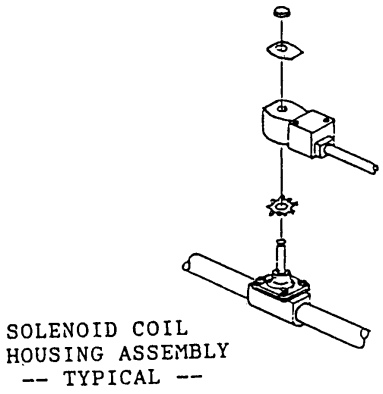
   Refer to Table 2–2 and Table 2–3 for the routings.

2. Connect the cables to the corresponding electrical component.

Most cables have keyed connectors that plug in and are secured with threaded fittings. Cables that must be wired to the component are noted in Table 2–2 and Table 2–3.

Attach all solenoid coil housings to their related solenoid valve bodies, as shown in Figure 2–38.

Figure 2–38. Solenoid Valve Assembly



NOTE ▶

The actual configuration for your washer may vary from that listed here.

Table 2–2. Junction Box Cable Connections

Jack	Cable P/N	Cable Label	Destination
J2	61301603973	P1 – P2	Control Box Jack J1
J3	Y960788	P3 – 1PS	Load End Left Proximity Switch 1PS
J4	Y960788	P4 – 2PS	Unload End Left Proximity Switch 2PS
J5	Y960788	P5 – 3PS	Load End Right Proximity Switch 3PS
J6	Y960788	P6 – 4PS	Unload End Right Proximity Switch 4PS
J7	61301603975	P7 – 1LS	Retract Limit Switch 1LS
J8	61301603975	P8 – 2LS	Extend Limit Switch 2LS
J9	61301603976	P9 –2MV	Sump Drain Valve 2MV
J10	61301603988	P10 – 7MTR	Exhaust Elbow Damper 7MTR
J11	61301603978	P11 – 6MTR	Front Condenser Damper 6MTR
J12	61301603978	P12 – 8MTR	Rear Condenser Damper 8MTR
J13	Y960456	P13 – 3SOL	Sump Hot Water Fill Solenoid Valve 3SOL
J14	Y960456	P14 – 4SOL	Sump Steam Solenoid Valve 4SOL
J15	Y960456	P15 – 5SOL	Booster Heater Steam Solenoid Valve 5SOL
J16	Y960456	P16 – 1SOL	Front Dryer Steam Solenoid Valve 1SOL
J17	Y960456	P17 – 8SOL	Rear Dryer Steam Solenoid Valve 8SOL
J18	Y960456	P18 – 2SOL	Front Condenser Cold Water Solenoid Valve 2SOL
J19	Y960456	P19 –9SOL	Rear Condenser Cold Water Solenoid Valve 9SOL
J20		P20 – 6SOL	Exhaust Duct 6SOL (Non-Vented Washers Only)
J21	Not used.		
J22	61301603980	P22 – P22A	Unload End Indicator Box
J23	61301603981	P23 – 9MTR	Detergent Pump 9MTR
J24	61301603981	P24 – 10MTR	Rinse Aid Pump 10MTR
J25	61301603982	P25 – 1E/2E	Sump High and Low Water Level Probes
J26	61301603983	P26 – 1ACT	Floor Tilt Actuator 1ACT
J27	61301603984	P27 – 1DS	Washer Compartment Light 1DS
J28	Not used.		
J29	Not used.		
J30	Not used.		

Table 2–3. Control Box Cable Connections

Jack	Cable P/N	Cable Label	Destination
J1	61301603973	P1 – P2	Junction Box Jack J2
J31	61301603985	P31 – 1TC	Sump Thermocouple 1TC
J32	61301603985	P32 – 2TC	Front Dryer Thermocouple 2TC
J33	61301603985	P33 – 3TC	Rear Dryer Thermocouple 3TC
J34	61301603985	P34 – 4TC	Booster Heater Water Thermocouple 4TC
J35	Not used.		
J36		P36 – 1MTR	Wash Pump 1 MTR
J37		P37 – 2MTR	Front Dryer Blower 2MTR
J38		P38 – 3MTR	Rear Dryer Blower 3MTR
J39		P39 – 4MTR	Manifold Drive Motor 4 MTR
J40		P40 – T	Transformer T
J50	61301604279	P50 – 3E	High and Low Sump Level
J51		P51 – 5MTR	Exhaust Vent Damper Motor 5MTR (Non-Vented Only)
J53		P53 – 3S	Emergency Stop Switch Junction Box

Install Components on the Inside of the Washer

This section provides instructions for installing equipment on the inside of the washer. The procedures are presented in a recommended order. Refer to the following sections.

- “Rear Dryer Ducts” on page 2-45
- “Drive Chain Tension Idlers and Idler Bearings” on page 2-47
- “Chain Drive Assembly” on page 2-49
- “Spray Manifold Supports and Manifold Assembly” on page 2-51
- “Manifold Cover and Spray Guard, Manifold Guard Tubes, Wash Cart Tubes” on page 2-54
- “Emergency Stop Switch Cables” on page 2-57

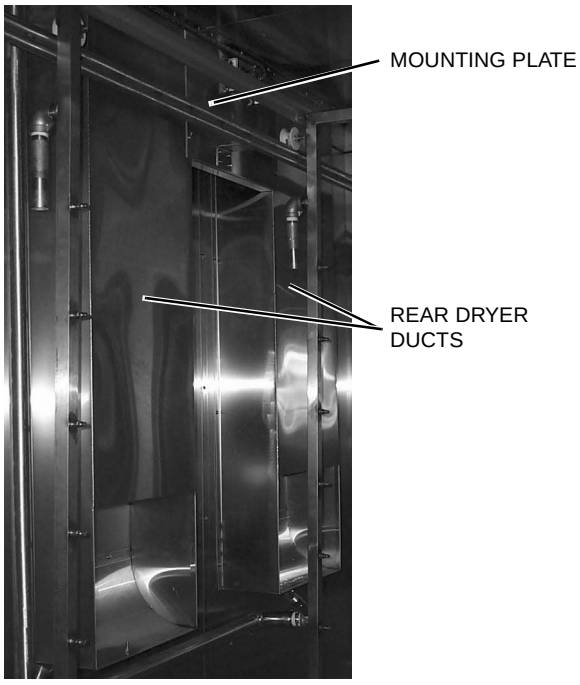
Rear Dryer Ducts

Objective

Attach the two rear interior ducts to the rear wall of the washer and to the cutouts in the ceiling. Attach the mounting plate between the dryer ducts.

Installation

Figure 2–39. Interior Dryer Ducts



1. Inside the washer, apply silicone sealant to the two 18" x 7-1/2" rectangular cutouts in the top of the washer compartment.

2. Position one of the dryer ducts on the wall and align the mounting holes with those in the compartment wall and ceiling.
3. Secure the duct to the wall with eight #10-32 fasteners (1/2" phillips head screws, lock washers, and flat washers).
4. Secure the duct to the ceiling cutouts with nine #10-32 fasteners per cutout (1/2" phillips head screws, lock washers, and flat washers).
5. Repeat steps 2 through 4 for the other duct.
6. Install the mounting plate between the two dryer ducts. Secure to the dryer ducts and to the top panel with seven #10-32 fasteners.

Drive Chain Tension Idlers and Idler Bearings

Objective

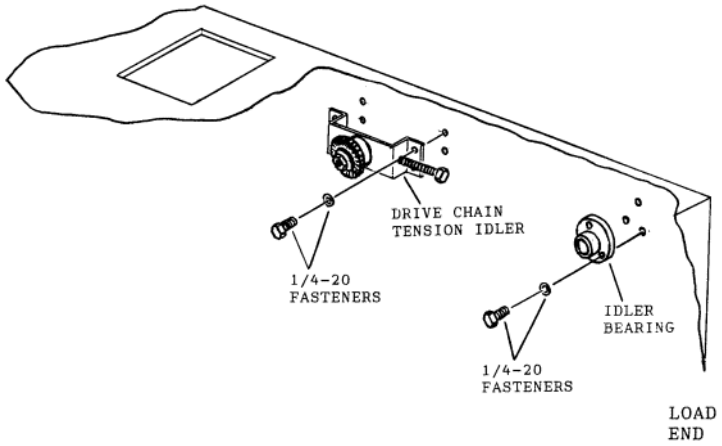
Install the following components inside the washer compartment:

- Four drive chain tension idlers
- Two idler bearings

Installation

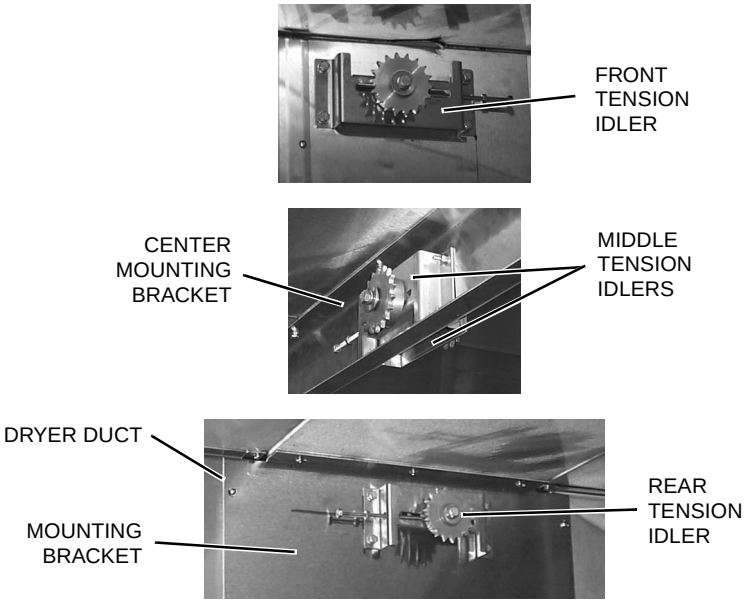
Refer to Figure 2–40. Drive Chain Idler and Idler Bearing.

Figure 2–40. Drive Chain Idler and Idler Bearing



1. Mount the four drive chain tension idlers, one on either side of the compartment and two in the middle, as shown in Figure 2–41.

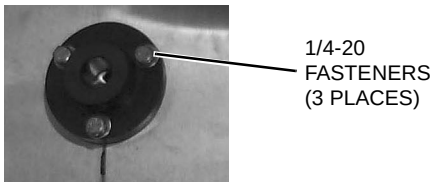
Figure 2–41. Tension Idlers



The front drive chain tension idler is attached to the washer panel, the rear idler is attached to the mounting bracket between the two dryer ducts, and the middle idlers are attached to either side of the center mounting bracket. Secure each with four 1/4-20 fasteners (3/4" hex head cap screw and lock washer).

2. Mount the two idler bearings for the manifold drive shaft at the load end of the rear side panel and of the front side of the center mounting bracket, as shown in Figure 2–42. Secure each with three 1/4-20 fasteners (1" hex head cap screw, lock nut, lock washer, and flat washer).

Figure 2–42. Idler Bearing



Chain Drive Assembly

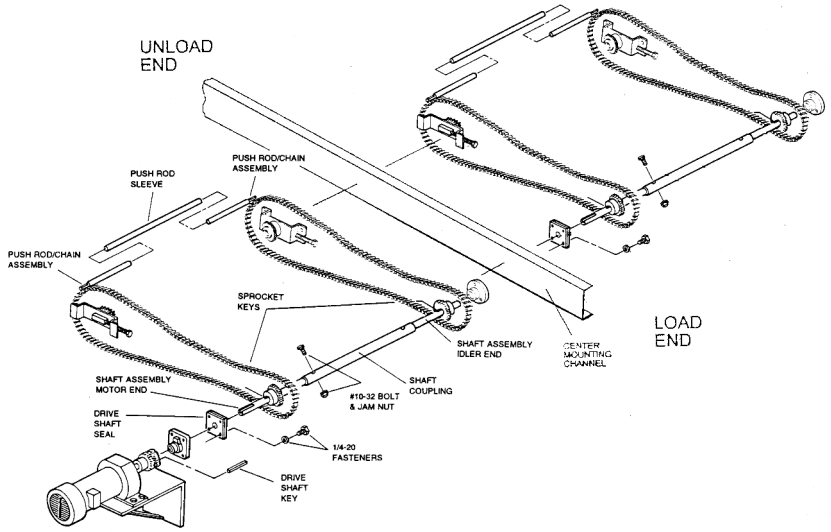
Objective

Install the drive shaft, drive chains, and push rod that comprise the chain drive assembly.

Installation

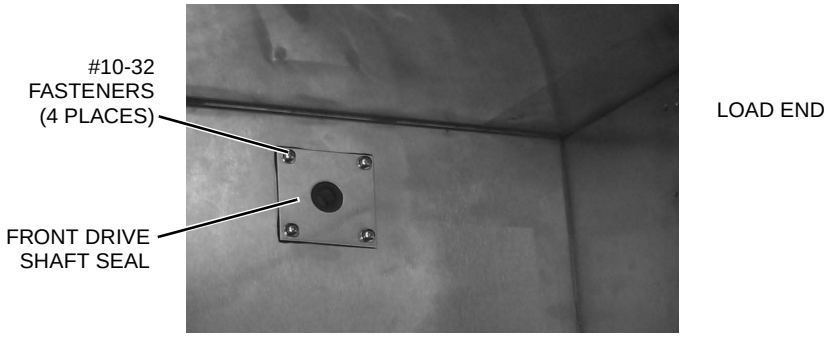
Refer to Figure 2–43. Chain Drive Assembly.

Figure 2–43. Chain Drive Assembly



1. Insert the drive shaft key into the keyway in the spray manifold drive motor that you installed previously.

Figure 2–44. Drive Shaft Seal



2. Mount the front drive shaft seal to the inside of the upper corner of the load end side panel, opposite the flange bearing that you installed previously.
   a. Position the seal so its rubber side is against the panel.
   b. Secure in place with #10-32 fasteners (3/8" pan head screw and lock washer).

3. Insert, but do not fasten, the motor and idler ends of each shaft assembly into the shaft coupling.
4. Hang the two push rod/chain assemblies from the shaft assembly.
5. Fit the idler end into the idler bearing that you installed previously.
6. Extend the motor end through the seal and flange bearing, and then engage the key (installed in step 1) with the shaft's keyway.
7. Rotate the idler end of the shaft until its sprocket key is in alignment with the sprocket key at the shaft's motor end.
8. Secure the shaft ends to the shaft coupling with two #10-32 bolts and jam nuts.
9. Use #10-32 fasteners (four each 1/4" pan head screws and lock washers) to attach the drive coupling guard to the motor's mounting fixture.

You can wait until the operation of the motor has been checked by Product Support personnel before installing the drive coupling guard.

10. Insert the ends of the push rod chain assembly into the push rod sleeve.
11. Fit the chains onto their related sprockets at the drive shaft and at the drive chain tension idlers that you installed previously.
    Make sure the ends of the push rod are seated on matching sprocket teeth.
12. Adjust the chain tension so there is no more than 1" of play in either line.
    You can loosen a tension idler's 3/8-16 bolt to permit movement of its sprocket. Turning the 1/4-20 adjustment bolt repositions the sprocket, thereby increasing or decreasing chain tension.
13. Repeat steps 2 through 11 for the rear chain drive assembly.

Spray Manifold Supports and Manifold Assembly

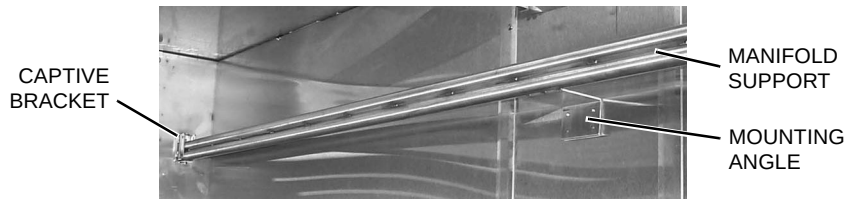
Objective

Install the three spray manifold supports, one on either side of the washer compartment and one in the middle, and then install the two spray manifold assemblies.

Installation

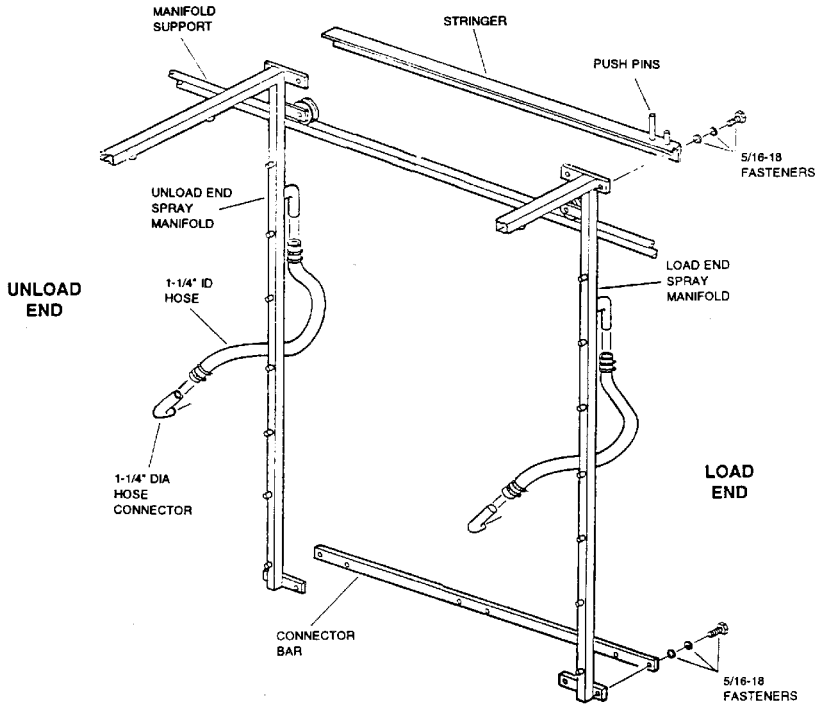
Refer to Figure 2–45. Spray Manifold Support.

Figure 2–45. Spray Manifold Support



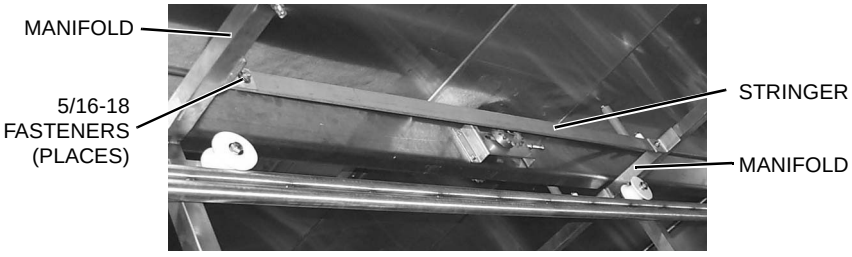
1. Seat the ends of the outside (front and rear) spray manifold supports in the uppermost captive brackets that are welded to the inside of the end panels.
2. Apply silicone sealant to four #10-32 fasteners, then secure the mounting angle of the front support to the front side panel.
3. Use four #10-32 fasteners to secure the mounting angle of the rear support to the mounting plate between the two dryer ducts.
4. Attach 1/4-20 fasteners to the captive brackets to ensure the ends of the spray manifold supports remain in place.

Figure 2–46. Spray Manifold Assembly



5. Attach two hose connectors to the inlet ports in the front side panel. Repeat for the rear panel. When tight, all connectors should point toward the unload end of the unit at an angle of approximately 45 degrees.
6. Set the two spray manifolds on the two outside manifold supports.
7. Seat the ends of the middle spray manifold support in the uppermost captive brackets that are welded to the inside of the end panels.
8. Attach 1/4-20 fasteners to the captive brackets to ensure the ends of the spray manifold supports remain in place.

Figure 2–47. Manifold Stringers



9. Connect the manifolds at the top with two stringers in each compartment. Orient the stringers so that their push pins are directed toward the load end. Use 5/16-18 fasteners to secure the stringers to the manifolds.
10. Use 5/16-18 fasteners to connect the manifolds at the bottom (one on each side and one in the middle) with three connector bars. Use two sets of fasteners at each end of each connector bar.
11. Install the hoses between the manifold and the panel hose connectors. Secure each end of each hose with two hose clamps. Position the hoses so they rest against the panels and not obstruct manifold movement.

Manifold Cover and Spray Guard, Manifold Guard Tubes, Wash Cart Tubes

Objective

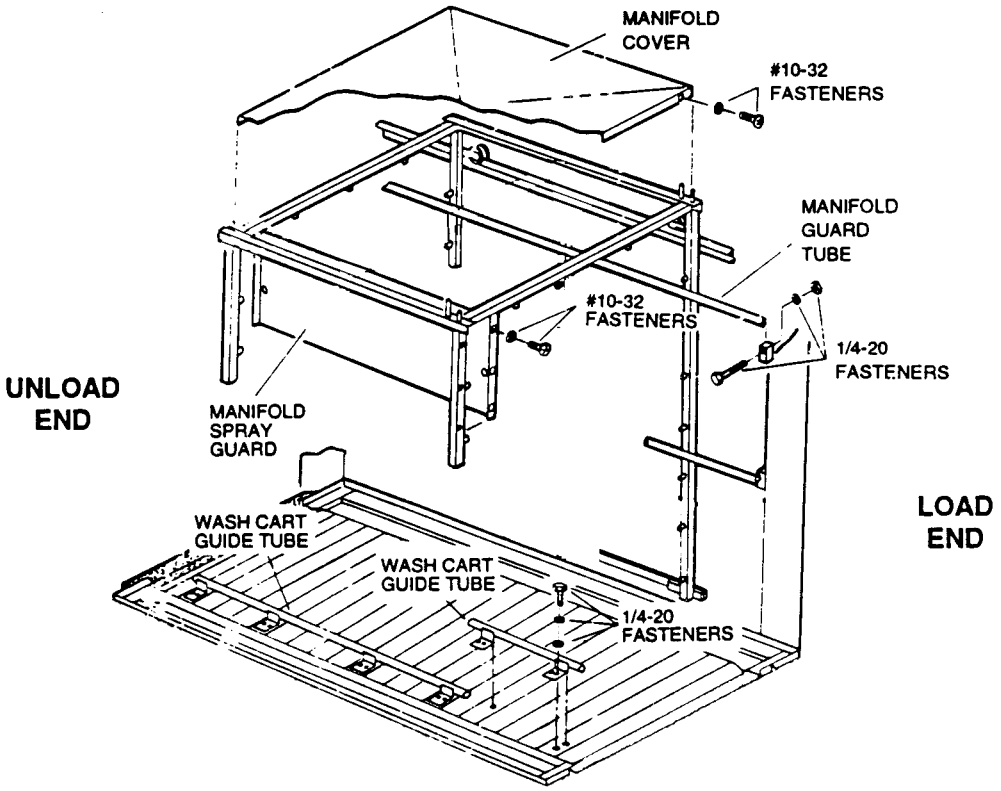
Install the following components inside the washer:

- Two manifold covers
- Manifold spray guard
- Four manifold guard tubes
- Three wash cart guide tubes

Installation

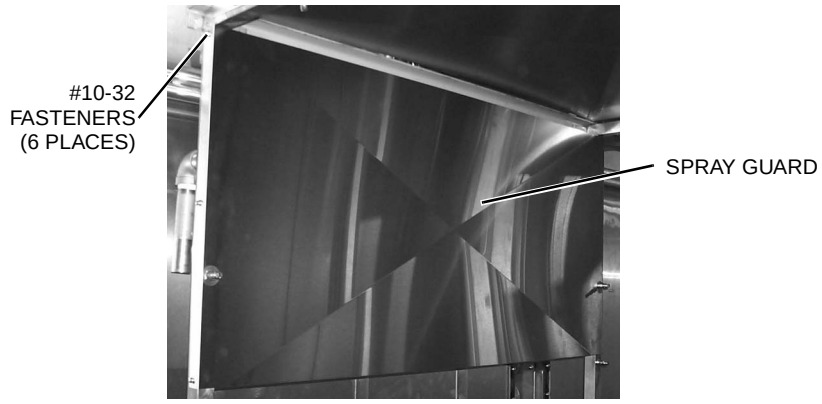
Refer to Figure 2–48. Manifold Cover and Spray Guard, Manifold Guard Tubes, Wash Cart Guide Tubes.

Figure 2–48. Manifold Cover and Spray Guard, Manifold Guard Tubes, Wash Cart Guide Tubes



1. Position a manifold cover on top of each side of the spray manifolds. Secure the cover in place at the load and unload ends with eight #10-32 fasteners (two at each end of each cover).

Figure 2–49. Manifold Spray Guard



2. On the front side of the washer, position the manifold spray guard against the inside of the spray manifolds so that the cutouts fit over the manifold nozzles. Secure the guard in place at the load and unload ends with six #10-32 fasteners.
3. Attach the ten manifold guard tubes to the brackets welded to the load and unload end door panels. For each wash compartment, attach three tubes to the outer side and two tubes on the side at the middle of the washer.
    a. Place a 1/4-20 bolt through the manifold guard tube brackets on each end of the washer at the appropriate level and secure with a locknut.
    b. Insert each end of the manifold guard tube so that it rests on the bolt inside the bracket.

NOTE

There are two manifold guard tubes that each have three eyebolts to accommodate the emergency stop cables. These tubes should be installed as the middle of the three tubes that are installed on the outer sides of the washer. These tubes are also secured to the bracket through holes in the tube, rather than by resting on the bolt.

4. Install the six wash cart guide tubes, three on each outer side of the washer.
    a. Position three wash cart guide tubes on the outside edge of the front wash compartment.
    b. Butt the edges of the tube's mounting brackets against the floor frame over the sump.
    c. Using the brackets as templates, drill and tap four 1/4-20 holes into the grate. Make sure the holes are located against the inside of the bracket slots so the tube can to be adjusted back toward the center line of the floor.
    d. Repeat steps a through c for three remaining wash cart guide tubes on the outside edge of the rear wash compartment.
    e. Secure all six tubes to the floor with 1/4-20 fasteners.

Emergency Stop Switch Cables

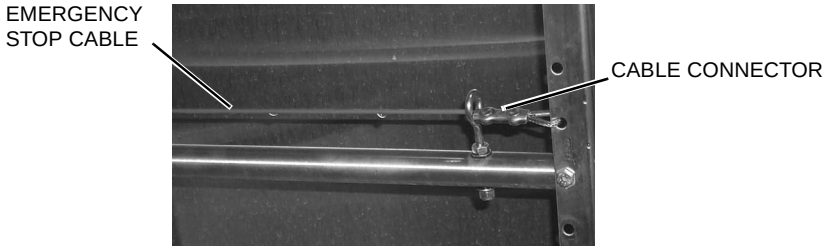
Objective

Install the emergency stop cables. One cable runs along each side of the washer. The front cable passes through the side panel and connects to the emergency stop switch on the service side of the washer. The rear cable passes through the top panel and connects to the switch mounted on top of the washer.

Installation

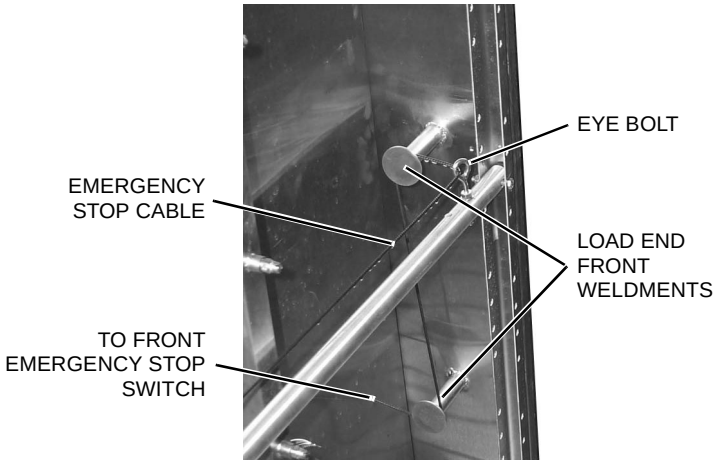
1. Install the emergency stop cable on the front side of the washer and connect to the switch on the outside of the washer.
   a. Refer to Figure 2–50. At the unload end of the washer, attach one end of the cable to the guide rail bracket. Loop the cable through the next hole in the bracket above the guide rail and secure with a cable fastener.

Figure 2–50. Emergency Cable Connection



   b. As shown in Figure 2–51, feed the cable through the three eyebolts on the guide rail to the load end, around the two weldments on the front side panel, and through the opening in the front side panel.

Figure 2–51. Front Emergency Stop Cable



c. Secure the end of the cable to the emergency stop switch assembly with a cable fastener as shown in Figure 2–28.

2. Install the emergency stop cable on the rear side of the washer and connect to the switch on the top of the washer.

   a. Refer to Figure 2–50. At the unload end of the washer, attach one end of the cable to the guide rail bracket. Loop the cable through the next hole in the bracket above the guide rail and secure with a cable fastener.

   b. As shown in Figure 2–52, feed the cable through the three eyebolts on the guide rail to the load end, around the weldment on the end panel, and up through the opening in the rear side top panel.

Figure 2–52. Rear Emergency Stop Cable

c. Secure the end of the cable to the emergency stop switch assembly with a cable fastener as shown in Figure 2–18.

Final Installation Tasks

This section provides instructions for completing the installation of the washer. Refer to the following sections.

- “Final Door Assembly” on page 2-60
- “Dispenser Tubing” on page 2-61
- “Sanitary Barrier Flanges” on page 2-62
- “Pit Covers (Option)” on page 2-63
- “Service Area Enclosure (Option)” on page 2-64
- “Base Shrouds (Floor Mounted Option)” on page 2-65
- “Ramps (Floor Mounted Option)” on page 2-66
- “Exhaust Connection” on page 2-66
- “Plumbing System Connections” on page 2-66
- “Electrical Supply Connection” on page 2-67
- “Concluding Tasks” on page 2-67

Final Door Assembly

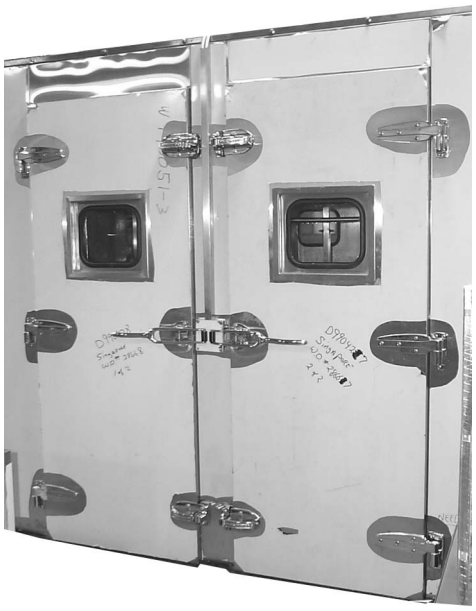
Objective

Hang the load and unload doors back on their hinges.

Installation

Refer to Figure 2–53. Door Assembly.

Figure 2–53. Door Assembly



WARNING

A washer door is heavy and awkward to handle. Take care to avoid crushing or strain injuries.

1. Raise and maneuver the door until its hinge posts are in vertical alignment over the three hinge mounts attached to the door panel.
2. When aligned, lower the door and properly seat all three posts in their respective mounts.

Repeat steps 1 and 2 for the other door assemblies.

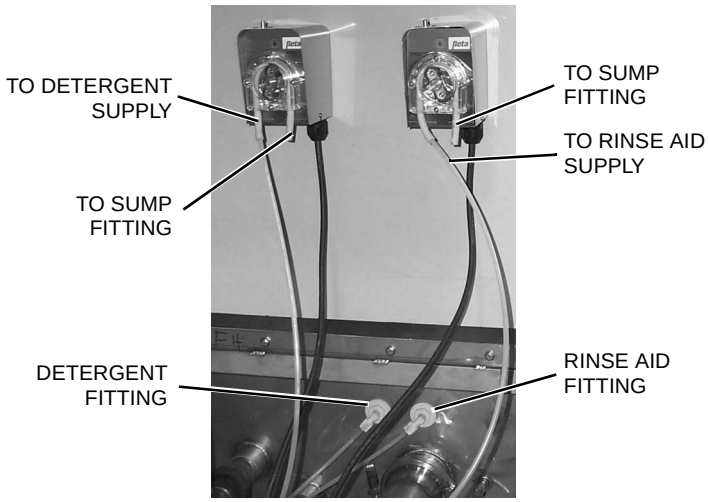
Dispenser Tubing

Objective

Connect the detergent and rinse aid dispenser pump tubing. Refer to Figure 2–54. Detergent and Rinse Aid Pumps.

Installation

Figure 2–54. Detergent and Rinse Aid Pumps



1. Connect one end of the supply tubing to the left side of the detergent pump. Place the other end in the detergent supply container.
2. Connect one end of the discharge tubing to the right side of the detergent pump. Connect the other end to the plastic compression fitting on the side of the sump.
3. Connect one end of the supply tubing to the left side of the rinse aid pump. Place the other end in the rinse aid supply container.
4. Connect one end of the discharge tubing to the right side of the rinse aid pump. Connect the other end to the plastic compression fitting on the side of the sump.

Sanitary Barrier Flanges

Objective

Attach the sanitary barrier flanges to the load and unload ends of the washer.

The following instructions apply to units with structural walls situated at both the load and unload ends. Units with only one wall (generally at the unload end) receive a service area enclosure and an unload end top barrier flange. For the latter configuration, refer to “Service Area Enclosure (Option)” on page 2-64.

NOTE ▶

The method and materials for securing the sanitary barrier flanges to a structural wall are to be provided by the customer.

Installation

1. Using #10-32 fasteners, attach the two short attachment angles to the load end side panel and the single long attachment angle to the unload end side panel. Position the proximity switch and indicator panel cables so they route through the cutouts provided in the angles.
2. Secure the load and unload end side barrier flanges to the attachment angles with #10-32 fasteners.
   The interior edge of a flange seats between an angle and the side panel.
3. Attach the top barrier flanges.
   a. Remove and retain the acorn nut fasteners from the two top thru bolts.
   b. Attach the load and unload end top barrier flanges.
   c. Use the acorn nuts along with #10-32 fasteners to secure the flanges to the top panels and to the side barrier flanges.
4. Attach the intake frame assembly to the unload end top barrier flange.

Pit Covers (Option)

Objective

Install the pit covers, if that option has been provided, at the load and unload Ends of a pit mounted washer.

An additional pit cover may be provided for installation along the non-service side of the washer if that side is exposed.

1. Place the pit covers in position against the washer.
2. Using the mounting holes in the cover flanges as a template, drill and tap #10-32 holes into washer base.
3. Secure the pit covers to the washer base with #10-32 fasteners.

Service Area Enclosure (Option)

Objective

Assemble the service area enclosure.

The service area enclosure is usually installed on units that do not have a structural wall at either the load or unload end.

Installation

1. Attach the two short attachment angles to the load end side panel and the single long attachment angle to the unload end side panel with #10-32 fasteners. Position the proximity switch and indicator panel cables so they route through the cutouts provided in the angles.
2. Use four 1/4-20 fasteners to attach the mounting base frame to the base frame of the washer.
3. Secure the load and unload end side panels to the attachment angles. The interior edge of a panel seats between an angle and the washer's side panel. Use #10-32 fasteners to secure the base of the each panel to the mounting base frame.
4. Position the access panel divider in the middle of the mounting base frame. The upper end of the divider has two #10-32 threaded holes and the lower end has two 1/4" diameter holes. Secure the bottom of the divider to the frame with two #10-32 fasteners.

NOTE

Longer units may have two dividers.

5. Secure the top panel to the load and unload end side panels. Use #10-32 fasteners to secure it to the top of the access panel divider.
6. Install the service access panels.
   a. Fit the holes in the bottom of a panel to the panel mounting studs on the mounting base frame.
   b. Turn the latches 90 degrees to secure the service access panel in place.
7. Attach the load and unload end top barrier flanges.

Base Shrouds (Floor Mounted Option)

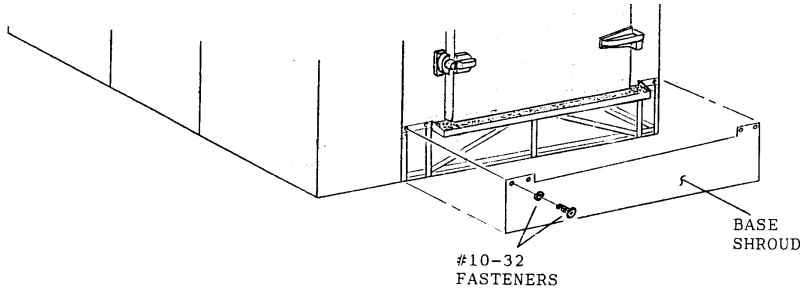
Objective

Install the base shrouds at the load and unload ends of a floor mounted washer.

Installation

Refer to Figure 2–55. Base Shroud.

Figure 2–55. Base Shroud



1. Align the holes in the base shroud with #10-32 threaded holes in the base frame.
2. Secure in place with #10-32 fasteners.

Repeat steps 1 and 2 for the other base shrouds.

Ramps (Floor Mounted Option)

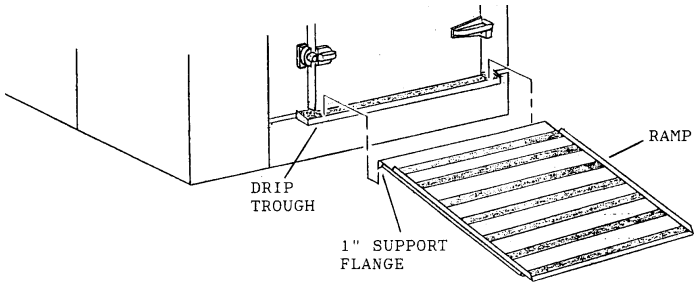
Objective

Install the ramps at the load and unload ends of a floor mounted washer.

Installation

Refer to Figure 2–56. Ramp.

Figure 2–56. Ramp



Insert the 1" support flange of the ramp behind the front edge of the drip trough that extends from the door threshold. No fasteners are required.

Exhaust Connection

This procedure applies only to vented washers.

Install a dedicated, corrosion-proof, watertight duct (800 CFM, negative 1/4" static pressure) from the 12-inch diameter exhaust elbow (Figure 2–21 on page 2–27) to the building's exhaust system. The duct assembly should be sloped toward the washer.

Plumbing System Connections

All service connections must conform to local codes. The supply line connections are labeled for identification. Refer to "Utilities and Specifications" on page 1-3 for pipe sizes, pressures, and requirements at site of installation.

1. Connect the 1-inch hot water supply line to the 1-inch service connection.
2. Connect the 3/4-inch cold water supply line to the 3/4-inch service connection.
3. Connect the 1-1/2 inch steam supply line to the 1-1/2 inch service connection.
4. Connect the 3/4-inch steam return or drain line to the 3/4-inch condensate line connection.
5. Connect a 3-inch drain line to the 3-inch drain fitting.

Electrical Supply Connection

NOTE

A fused disconnect (supplied by customer) must be installed in the electrical supply line. It should be situated close to the unit for easy access by service personnel.

1. Route the electrical supply line through the top of the control box to the power distribution block.
2. Connect the electrical supply line. Refer to “Utilities and Specifications” on page 1-3.

Concluding Tasks

1. Apply silicone sealant to all permanent exterior seams.
2. Remove the protective film from all exterior surfaces of the washer.
3. Clean and polish the exterior surfaces of the washer.

NOTE

At this point, installation is complete. You should contact Getinge/Castle personnel so that mechanical adjustments and electrical performance tests can be accomplished before you operate the equipment. Failure to have the specified Product Support personnel inspect and test this equipment before operation voids the warranty.

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